



Evaluation of Seven Publicized Enforcement Demonstration Programs to Reduce Impaired Driving

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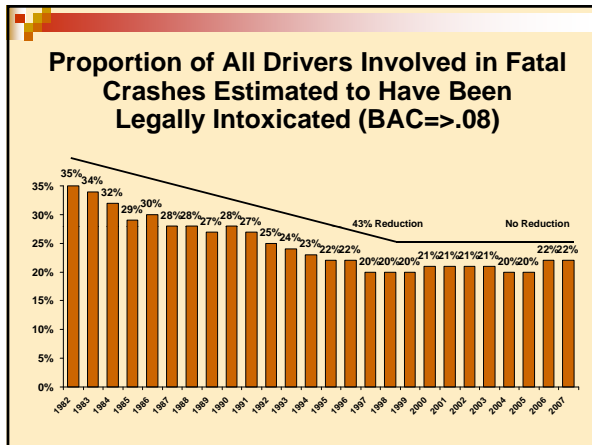

LifeSavers 2010
 Philadelphia, PA
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BACKGROUND

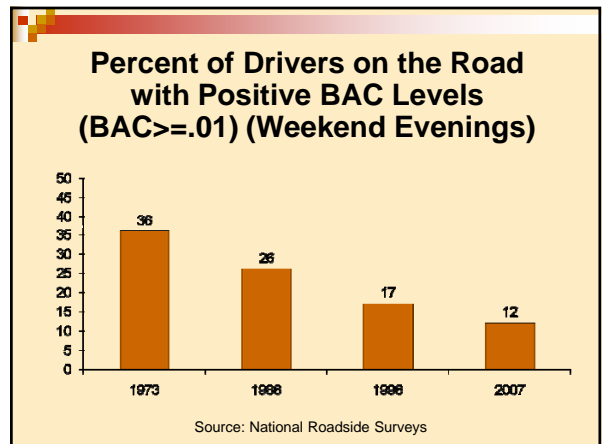
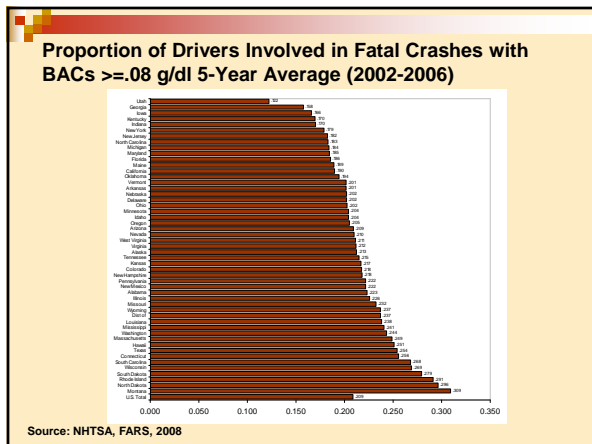
The Impaired Driving Problem: United States

- 11,773 killed in alcohol-impaired driving crashes in 2008 (driver BAC \geq .08)
- Another 2072 killed by drinking drivers (BAC=.01-.07)
- An estimated 500,000 people injured in alcohol-related traffic crashes each year
- \$51 billion in annual costs to society
- 1,400,000 drivers arrested for driving while intoxicated or driving under the influence



Proportion of Drivers Involved in Fatal Crashes with BACs \geq .08 by State

- Varies considerably by State.
- Five-year average from 2002-2006 ranges from **Utah at 12%**, **Georgia at 16%**, **Maryland at 19%**, to **Montana at 31%**.
- National average for that 5-year period was **21%**.

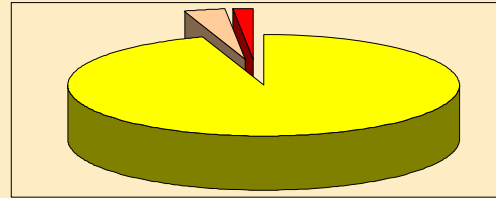


DWI Enforcement in the U.S. (2000-2008)

- 1,400,000 drivers arrested for DWI/DUI each year
- 1 DWI arrest for every 130-140 licensed drivers
- 1 DWI arrest for every 772 reported episodes of driving after drinking
- 1 DWI arrest for every 88 episodes of driving over the BAC limit**
- 1 DWI arrest for every 6 stops by police for suspicion of DWI
- 115-120 DWI arrests for every drunk driver involved in a fatal crash

Sources: FBI Uniform Crime Report; Zador et al. (2000); NHTSA, FARS

Estimated % of DWI's Caught (One Year Period)



Uncaught 1st Time Repeat

NHTSA Priority Strategies for Reducing Impaired Driving



High-Visibility Enforcement

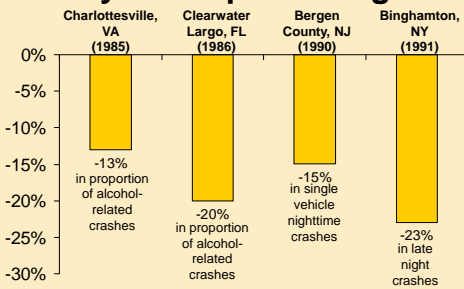
DWI Courts & Special Prosecutors

Interlocks for All Convicted DWI Offenders

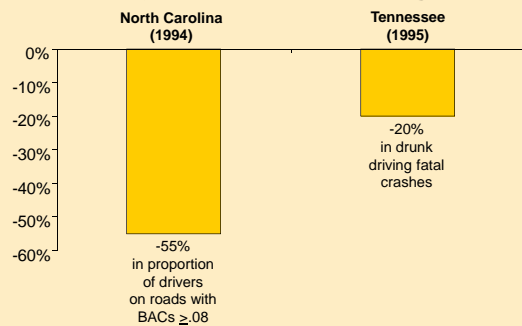
Primary Seat Belt Laws



Effectiveness of Community Sobriety Checkpoint Programs



Effectiveness of Statewide Sobriety Checkpoint Programs



Reviews of the Literature on Sobriety Checkpoints

Review	# Studies	Conclusion
Ross (1992)	9	Cumulation of evidence supports the hypothesis that checkpoints reduce impaired driving.
Peek-Asa (1999)	14	Decreases in alcohol-related fatalities associated with checkpoints: 17% to 75%.
Shults et al. (2001)	16	Median decrease of 20% in alcohol-related fatal and nonfatal injury causes associated with sobriety checkpoints.

Saturation Patrols

- In California, highly publicized saturation patrols reduced alcohol-related crashes by 17%.
- In comparison, four California communities that used highly publicized sobriety checkpoints reduced alcohol-related crashes by 28%.

(Stuster and Blowers, 1995)

Publicizing Enforcement How Important?

Study	Year	Conclusion
Wilde, Hoste, Sheppard & Wind	1971	PSAs that are not part of some enforcement or action program are unlikely to change behavior
Ross	1973	Publicity had a major impact on the effectiveness of the British Road Safety Act
Voas & Hause	1987	30% decrease in weekend nighttime crashes when publicity accompanied enforcement----- only half of that effect when it didn't.

Demonstration Programs Awarded: 2000-2003

- Georgia - \$1,000,000
- Louisiana - \$1,000,000
- Pennsylvania - \$1,000,000
- Tennessee - \$1,000,000
- Texas - \$1,000,000
- Indiana - \$500,000
- Michigan - \$500,000

Supplemented with other federal funding (Section 402 and 410)

METHODS Data Sources

- Enforcement Data: checkpoints; saturation & roving patrols; DWI arrests; etc.
- Publicity Data: earned media; paid media; PSAs; gross rating points; etc.
- Telephone Surveys: 6 of 7 states; RDD; 1,000 each wave; measures of awareness and perceived risk
- Fatal Crashes (FARS): ratio of drinking (BAC \geq .01) to non-drinking (BAC=.00) drivers; alcohol-related fatalities per 100M VMT

METHODS Data Analyses

- ARIMA Intervention Models used (Interrupted Time Series)
- Treatment Group – counties participating (LA, PA, IN, TX); entire state (GA, TN, MI)
- Within-State Comparison Group – counties within state NOT participating (LA, PA, IN, TX)
- Neighboring States (results relative to) – nearby states selected and pooled
- Rest of the Nation – pooled as a regressor series to factor out time trends

RESULTS

Telephone Surveys

- 6 of the 7 States conducted telephone surveys (IN did not)
- Three Waves: Before Kick-Off, Midway, Final (at end of program)
- N=1,000 for each Wave
- Awareness of Enforcement; Perceptions of being stopped, arrested, convicted if driving while intoxicated; reported behaviors

Georgia: Specific Awareness of New Enforcement Program

Demographic	Midpoint	Final
TOTAL	38%	40%
Males	40%	43%
Females	35%	38%
Ages 16-34	35%	39%
35 and Older	39%	42%
Drank	35%	40%
Drank & Drove	40%	31%

Q38b: What is it called [if heard of new enforcement program]?
 Q40: Have you heard of "You drink. You Drive. You lose."?
 Base: Total sample
 N Wave 2 = 1,000; Wave 3 = 1,000

Louisiana: Specific Awareness of New Enforcement Program

Demographic	Midpoint	Final
TOTAL*	36%	55%
Males*	37%	57%
Females*	34%	53%
Ages 16-34*	40%	55%
35 and Older*	33%	55%
Drank*	37%	54%
Drank & Drove	43%	52%

Q38b: What is it called [if heard of new enforcement program]?
 Q40: Have you heard of "You drink. You Drive. You lose."?
 Base: Total sample
 N Wave 2 = 1,000; Wave 3 = 1,000
 * Statistically significant difference between Waves 1 and 2, p<.05

Georgia: Drove When Thought You Had Too Much to Drink in Last 30 Days

Demographic	Base	Midpoint	Final
TOTAL	18%	12%	9%
Males	15%	10%	9%
Females	23%	19%	8%
Ages 16-34	32%	17%	13%
35 and Older	4%	6%	6%

Q17: About how many times in the past 30 days did you drive when you thought you had too much to drink?
 Base: Gave the number of times drove within two hours of drinking
 N Wave 1 = 99; Wave 2 = 81; Wave 3 = 80

Texas: Drove When Thought You Had Too Much to Drink in Last 30 Days

Demographic	Base	Midpoint	Final
TOTAL	19%	11%	16%
Males	21%	12%	14%
Females	15%	7%	17%
Ages 16-34	20%	11%	30%
35 and Older	16%	11%	7%

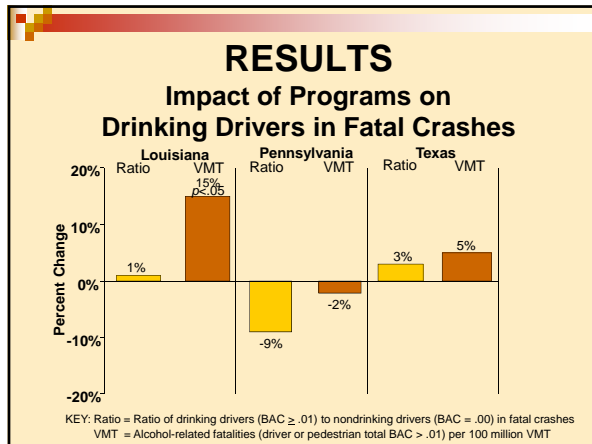
Q17: About how many times in the past 30 days did you drive when you thought you had too much to drink?
 Base: Gave the number of times drove within two hours of drinking
 N Wave 1 = 123; Wave 2 = 142; Wave 3 = 128

RESULTS

Impact of Programs on Drinking Drivers in Fatal Crashes

State	Ratio	VMT
Georgia	-14% (p<.005)	-5%
Tennessee	-11% (p<.035)	1%
Indiana	-13% (p<.018)	-20% (p<.002)
Michigan	-14% (p<.07)	-18% (p<.003)

KEY: Ratio = Ratio of drinking drivers (BAC ≥ .01) to nondrinking drivers (BAC = .00) in fatal crashes
 VMT = Alcohol-related fatalities (driver or pedestrian total BAC > .01) per 100 million VMT



CONCLUSIONS

- **Michigan** showed significant decreases in drinking drivers in fatal crashes even though they are prohibited from conducting sobriety checkpoints (3 mobilizations of publicized and increased saturation patrols were effective)
- Simple straight-forward relationships were NOT found between crash reductions and (a) amount or type of enforcement, (b) amount or type of publicity, or (c) driver awareness, perception of being caught, or self-reported behaviors. All we can say is that the “**whole package**” in **GA, TN, IN and MI** was **effective**.

CONCLUSIONS

- It appears that some features of the programs contributed to their success:
 - Numerous checkpoints or highly visible saturation patrols conducted routinely throughout the year along with **at least three mobilization crackdowns**
 - Intensive publicity coverage of the enforcement activities including **paid advertising**
 - **Statewide** rather than selected counties

LIMITATIONS

- The seven demonstrations were not designed experiments, but were analytical studies to better understand the correlations (*associations, not causation*)
- Different methods were used in each State to collect and report data concerning the program (*no uniformity or standardization*)
- Using the *ratio* of drinking to non-drinking drivers could mask reductions in the *numbers* of both (*enforcement could affect drinking and sober drivers*)
- Using the “Rest of the Nation” as a *regressor series* eliminated its use as a comparison group
- The findings were affected by the reductions (or increases) in the neighboring States (*relative to the comparison States*)

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