Car Crashes, Fatalities Rise Sharply With New Mexico Sunday Package Liquor Sales

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SUMMARY

Researchers at the *Behavioral Health Research Center of the Southwest* analyzed alcohol-related motor vehicle crashes that occurred in New Mexico between July 1, 1990, and June 30, 2000, to: Estimate the effects of a 1995 law legalizing Sunday packaged alcohol sales on alcohol-related motor vehicle crash rates and fatalities in New Mexico. Determine the extent to which demographic and geographic patterns moderate the effects of Sunday sales on crash and fatality rates.The project was part of the Robert Wood Johnson Foundation (RWJF) Substance Abuse Policy Research Program (for more information see Grant Results).

Key Findings

Both alcohol-related crashes and alcohol-related crash fatalities occurring between noon on Sunday and noon on Monday increased (by 29 and 42 percent, respectively) after the 1995 law allowed packaged alcohol to be sold on Sundays. Counties whose largest communities exercised the legislative option to disallow Sunday packaged alcohol sales had the lowest relative increase in alcohol-related crashes on Sundays.

Funding

RWJF supported the project with a grant of $86,019 between November 2003 and October 2004.

THE PROBLEM

Mothers Against Drunk Driving (MADD) estimates that alcohol-related crashes in the United States cost the public about $114.3 billion in 2000. Researchers at the University of New Mexico's Division of Government Research have shown that alcohol-related crashes cost New Mexico residents as much as $1,360 per capita in the year 2001. New Mexico has long ranked among the states with the highest per capita number of alcohol-related crashes. Legislative attempts to curb drinking are often confronted by liquor industry lobbyists pushing for alcohol availability policies that maximize profits. Policies affecting the hours and days of liquor establishment operation have gathered more attention from legislators than any other alcohol policy. Policies regarding Sunday packaged alcohol sales are the most common. On July 1, 1995, the state of New Mexico lifted its ban on Sunday packaged alcohol sales. New legislation allowed licensed package stores to sell alcohol between noon and midnight on Sundays. The law also included a provision allowing individual communities to hold an election to reinstitute the Sunday ban. Advocates for the legislation asserted that the law would reduce alcohol-related automobile crashes because it would cut down on bootleg Sunday sales, would divert alcohol consumption from bars to home (prior to the legislation alcohol could only be purchased on Sundays by the drink, for consumption in bars and restaurants) and eliminate travel across state lines to purchase packaged alcohol in Arizona, Texas and Colorado. Public health advocates opposed the measure on the basis that increased availability would translate into increased driving while intoxicated incidents and alcohol abuse.

THE PROJECT

The goals of this project were to:

Estimate the effects of legalizing Sunday packaged alcohol sales on alcohol-related motor vehicle crash rates and fatalities in New Mexico.

Determine the extent to which demographic and geographic patterns moderate the effects of Sunday sales on crash and fatality rates.

Specific objectives were to estimate the effects of lifting the Sunday alcohol sales ban on alcohol-related crash and fatality rates by:

The numbers of crashes and fatalities that would have occurred had the ban on Sunday packaged alcohol sales not been lifted.

Geographic, demographic and socioeconomic characteristics of New Mexico counties and census tracts.

Time of day and day of the week.

The Behavioral Health Research Center of the Southwest is a nonprofit agency established in 1997 to conduct research on substance abuse and other behavioral health issues.

Garnett P. McMillan, Ph.D., and colleagues at the Behavioral Health Research Center analyzed all alcohol-related motor vehicle crashes that occurred in New Mexico between July 1, 1990, and June 30, 2000, spanning five years before passage of New Mexico's law and five years after it.

Methodology

Researchers obtained data from uniform accident reports. Police officers complete these reports for reported crashes on public roadways that result in death, personal injury or $500 or more in property damage.

Researchers classified crash and crash fatality rates according to:

Whether they took place between July 1990 and June 1995, before the law change or between July 1995 and June 2000, after the change.

The day of the week on which they occurred, from noon on the day in question until noon the following day

The county in which they occurred.

In analyzing the data, researchers adjusted for seasonal trends in crash rates and high-risk alcohol-related crash-associated holidays.

Researchers did not analyze data by time of day, as planned, due to lack of funds.

Funding

A grant from RWJF's Substance Abuse Policy Research Program provided funding for the project. The Substance Abuse Policy Research Program funds research that can help reduce the harm caused by the use of alcohol, tobacco and drugs in the United States.

FINDINGS

Researchers reported overall findings from the study in an article, "Effectiveness of Bans and Laws in Reducing Traffic Deaths: Legalized Sunday Packaged Alcohol Sales and Alcohol-Related Traffic Crashes and Crash Fatalities in New Mexico," published in the American Journal of Public Health. The abstract is available online.

There were 492,396 motor vehicle crashes over the 10-year period. Some 45,596 of crashes were alcohol-related. There were 4,620 motor vehicle crash fatalities, during this period, with 2,341 involving alcohol.

Both alcohol-related crashes and alcohol-related crash fatalities occurring between noon on Sunday and noon on Monday increased after the law changed.

Sunday alcohol-related crash rates increased 29 percent, resulting in an estimated excess of 543.1 crashes between July 1, 1995, and June 30, 2000, attributable to the law change.

Sunday alcohol-related fatality rates increased 42 percent, resulting in an estimated excess of 41.6 fatalities during the five-year post-legislation study period attributable to the law change.

No other day of the week showed a statistically significant change in alcohol-related crashes or fatalities.

Nonalcohol-related crash rates on Sundays did not change, indicating that alcohol-related crash rates on Sundays cannot be attributed to larger trends in crashes.

Researchers reported findings related to differences by county in an article, "Geographic Variability in Alcohol-Related Crashes in Response to Legalized Sunday Packaged Alcohol Sales in New Mexico," published in Accident Analysis and Prevention. The abstract is available online.

Three counties whose largest communities exercised the option to disallow Sunday packaged alcohol sales had the lowest relative increase in alcohol-related crashes on Sundays. These communities-Gallup, Clovis and Portales-voted to disallow Sunday packaged alcohol sales in October 1996 (the statewide law took effect in July 1995).

New Mexico counties differed substantially in alcohol-related crashes after the law change, and the odds of crashes increased with unemployment rates and divorced/separated rates in the county.

Counties with older populations had lower rates of alcohol-related crashes prior to the 1995 law change, but this difference disappeared after the law took effect. Researchers speculate that this may be due to the drinking and drunk driving behavior patterns of older people-including the fact that older people are less likely than younger people to engage in social drinking on Sundays.

Limitations

Researchers reported limitations of the study in the two published articles.

The analysis relied on police officer reports as to whether nonfatal crashes were alcohol-related, and there has been some debate about the accuracy of such reporting since it often relies on the subjective assessment of the officer. However, there is no reason to believe that police reporting errors would be biased only on Sundays and only after the law changed. (American Journal of Public Health)

It is not possible to directly associate the characteristics of people living in a county with drinking packaged alcohol. For example, the study results do not conclude that divorced people are more likely to drive impaired than married people. More detailed analysis of individual drinkers and driving behavior is required to clarify those issues. (Accident Analysis and Prevention)

CONCLUSIONS

Project director McMillan noted the following conclusion from the project in a report to RWJF.

"Repealing the ban on Sunday packaged alcohol sales introduced a public health and safety hazard in New Mexico. While possibly increasing tax revenue, the repeal of this law was associated with a rise in alcohol-related crash rates and fatalities."

BIBLIOGRAPHY

Articles

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