The Impact of Underage Drinking Laws on Alcohol-Related Fatal Crashes of Young Drivers

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ABSTRACT
Background: This study used a pre- to post-design to evaluate the influence on drinking-and-driving fatal crashes of 6 laws directed at youth aged 20 and younger and 4 laws targeting all drivers.

Methods: Data on the laws were drawn from the Alcohol Policy Information System data set (1998 to 2005), the Digests of State Alcohol Highway Safety Related Legislation (1983 to 2006), and the Westlaw database. The Fatality Analysis Reporting System data set (1982 to 2004) was used to assess the ratio of drinking to nondrinking drivers involved in fatal crashes [fatal crash incidence ratio (CIR)]. The data were analyzed using structural equation modeling techniques.

Results: Significant decreases in the underage fatal CIR were associated with presence of 4 of the laws targeting youth (possession, purchase, use and lose, and zero tolerance) and 3 of the laws targeting all drivers (0.08 blood alcohol concentration illegal per se law, secondary or upgrade to a primary seat belt law, and an administrative license revocation law). Beer consumption was associated with a significant increase in the underage fatal CIR. The direct effects of laws targeting drivers of all ages on adult drinking drivers aged 26 and older were similar but of a smaller magnitude compared to the findings for those aged 20 and younger. It is estimated that the 2 core underage drinking laws (purchase and possession) and the zero tolerance law are currently saving an estimated 732 lives per year controlling for other exposure factors. If all states adopted use and lose laws, an additional 165 lives could be saved annually.

Conclusions: These results provide substantial support for the effectiveness of under age 21 drinking laws with 4 of the 6 laws examined having significant associations with reductions in underage drinking-and-driving fatal crashes. These findings point to the importance of key underage drinking and traffic safety laws in efforts to reduce underage drinking-driver crashes.