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Drunk Driving: Should Each State Be Required to Enact a 0.08 Blood Alcohol Concentration (BAC) Law?

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Summary

To date, 15 states have enacted a law which makes it illegal per se (by definition) to operate a motor vehicle at or above a 0.08 blood alcohol concentration (BAC) and 33 states have enacted a 0.10 BAC limit. During the debate on reauthorization of the federal surface transportation programs, an amendment that would require each state either to enact a 0.08 BAC law or face the loss of a portion of its Federal Highway Trust Fund monies passed the Senate and will likely be considered in the House. This proposal raises questions about the effectiveness and impacts of a 0.08 BAC law, the rights of states versus the federal government, and alternative ways to encourage the states to adopt stronger impaired driving countermeasures.

At the 0.08 BAC level of alcohol, braking, steering, lane changing, and judgement are degraded and the driving performance of virtually all drivers is substantially impaired. The Insurance Institute for Highway Safety asserts that the relative risk of being killed in a single vehicle crash with a driver operating at a BAC between 0.05 and 0.09 percent is at least 9 times higher than that of a driver who had not consumed any alcohol. Crash risk increases at higher BAC levels. Based on a review of the literature and interviews with various experts, it is reasonable to conclude that effective implementation of a 0.08 BAC law as compared to a 0.10 BAC law further strengthens efforts to combat impaired driving due to alcohol. There is limited research to support the conclusion that a 0.08 BAC law compared to a 0.10 BAC law reduces some measures of driver involvement in fatal crashes involving alcohol, but those results can be questioned. Until additional evidence is published, forecasts of the number of additional fatal crashes that would be prevented if each state enacted a 0.08 BAC law remain uncertain. The incremental costs of implementing a 0.08 BAC law instead of a 0.10 BAC law appear to be minimal.

Numerous health, safety, law enforcement and insurance groups favor enactment of a 0.08 BAC law in each state; but, there are substantial disagreements as to how this goal is to be achieved. Mothers Against Drunk Driving and Advocates for Highway and Auto Safety favor the imposition of a penalty against any state failing to enact a 0.08 BAC law. The U.S. DOT now supports the imposition of a penalty against those states that fail to enact a 0.08 BAC law.

Many state officials and state organizations assert that each state should determine its own traffic safety laws without federal pressure or dictates. Since 1990 roughly two states each year have enacted a 0.08 BAC law, without the threat of a federally-imposed sanction. In addition, those against the proposed penalty could assert that this sanction would be contrary to a current shift of power away from the federal government to the states. Opponents of a sanction also can argue that the weight of evidence documenting the effectiveness of a 0.08 BAC law needs to be strengthened before the federal government forces enactment of this measure on all states.

Contents

| | |
|--|----|
| Introduction | 1 |
| Implementation, Effectiveness, and Limitations of a 0.08 BAC Law | 2 |
| Selected Arguments for a 0.08 BAC Law or Imposition of a Federal Penalty Against a State Without Such a Law | 6 |
| Selected Arguments Against a 0.08 BAC Law or Imposition of a Federal Penalty Against a State Without Such a Law | 8 |
| Conclusion | 10 |

List of Tables

| | |
|--|---|
| Table 1. Status of 0.08 BAC Laws | 2 |
| Table 2. BAC Levels of Drivers Involved in Fatal Crashes, 1996 | 3 |

Drunk Driving: Should Each State Be Required to Enact a 0.08 Blood Alcohol Concentration (BAC) Law?

Introduction

In all but two states, it is illegal **per se** (by definition) to operate a motor vehicle with a blood alcohol concentration (BAC) at or above a specified amount. In the 48 states with a per se law, impairment does not have to be proven, but rather, evidence of alcohol at or above a specified BAC level is one of the factors needed to convict someone of either driving under the influence or driving while intoxicated, depending on the state involved. In 33 states and the District of Columbia this amount is set at 0.10 BAC for all drivers aged 21 and above.¹ To date, 15 states have enacted a 0.08 BAC law.² Table 1 presents a list of states with a 0.08 BAC law and a list of states where this measure was introduced in the state legislature during 1997.

As part of the debate over reauthorization of the various federal surface transportation program, an amendment to require each state either to enact a 0.08 BAC law or face the loss of a certain percentage of its Federal Highway Trust Fund monies passed the Senate and will likely be considered in the House.³ This proposal raises questions about the effectiveness and impacts of a 0.08 BAC law, the rights of states versus the federal government, and alternative ways to encourage the states to adopt stronger impaired driving countermeasures. This report first summarizes key studies that quantify the impacts of a 0.08 BAC law. Then, selected arguments are presented in favor and against a 0.08 BAC law or the imposition of a penalty against any state that does not enact such a measure.

¹ NHTSA. 0.08 BAC Illegal Per Se Level. State Legislative Fact Sheet. Sept. 1997. p. 1. Commercial drivers are subject to different limitations and penalties. In most states, non-commercial drivers under 21 are also subject to different limitations.

² Blood alcohol concentration or BAC can be measured in grams per deciliter; thus a 0.08 BAC is equivalent to 0.08 grams per deciliter, while 0.10 BAC is 0.10 grams/deciliter.

³ An amendment is likely to be in the form of "The Safe and Sober Streets Act of 1997", which has been introduced in the Senate as S. 412 and in the House as H.R. 981. A state may lose 5 percent of specified trust fund monies the first year a sanction takes effect, and 10 percent each year thereafter, according to these bills.

Table 1. Status of 0.08 BAC Laws**States with 0.08 BAC Per Se (15)**

| | |
|------------|----------------|
| Alabama | Maine |
| California | New Hampshire |
| Florida | New Mexico |
| Hawaii | North Carolina |
| Idaho | Oregon |
| Illinois | Utah |
| Kansas | Vermont |
| | Virginia |

States that introduced 0.08 legislation in 1997, but failed to pass it. (21)

| | |
|---------------|---------------|
| Alaska | Nevada |
| Arizona | New Jersey |
| Arkansas | New York |
| Connecticut | Ohio |
| Iowa | Rhode Island |
| Louisiana | Tennessee |
| Maryland | Texas |
| Massachusetts | Washington |
| Minnesota | West Virginia |
| Missouri | Wisconsin |
| Nebraska | |

Source: NHTSA

Implementation, Effectiveness, and Limitations of a 0.08 BAC Law

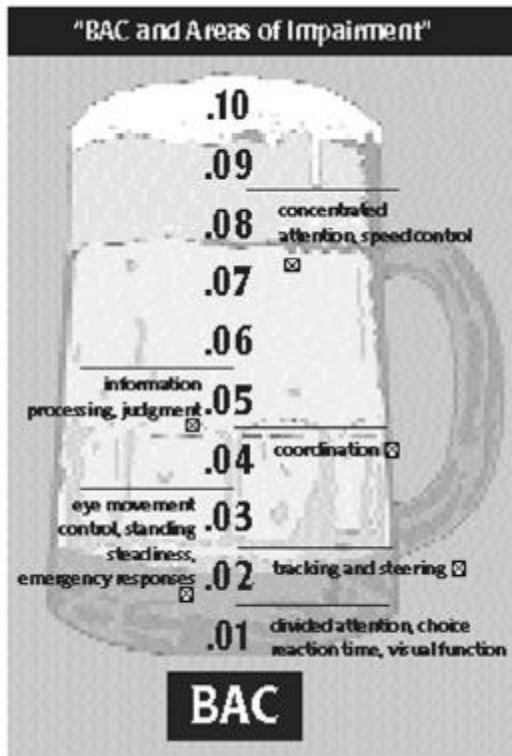
In 1996, 41 percent of some 42,000 deaths due to traffic crashes were alcohol-related. According to the National Highway Traffic Safety Administration (NHTSA), 82 percent of the drinking drivers involved in these crashes had a BAC level exceeding 0.08 percent. Table 2 presents data on the BAC levels of drivers involved in fatal crashes during 1996. The Insurance Institute for Highway Safety asserts that the relative risk of being killed in a single vehicle crash with a driver operating at a BAC between .05 and .09 percent is at least 9 times higher than that of a driver who had not consumed any alcohol.⁴ Crash risk increases as BAC level increases.

⁴ Paul L. Zador. "Alcohol-Related Relative Risk of Fatal Driver Injuries in Relation to Driver Age and Sex." *Journal of Studies on Alcohol*. v. 52. 1991: 302.

Table 2. BAC Levels of Drivers Involved in Fatal Crashes, 1996

| | .00 | .01-.07 | .08-.09 | .10-.14 | .15-.19 | . 20+ | Total |
|-------------------------|------------|----------------|----------------|----------------|----------------|--------------|--------------|
| Drivers Tested for BAC | 14787 | 1624 | 584 | 1980 | 2299 | 3488 | 24762 |
| | 59.7% | 6.6% | 2.4% | 8.0% | 9.3% | 14.1% | 100.0% |
| Total Drivers Estimated | 42635 | 2579 | 928 | 2715 | 3153 | 4783 | 56793 |
| BAC | 68.3% | 4.5% | 1.6% | 4.8% | 5.6% | 8.4% | 100% |

Source: NHTSA



Source: National Safety Council and NHTSA

Graph 1

To reach the 0.08 BAC level, an average male weighing 170 pounds must consume more than four drinks within one hour on an empty stomach. Graph 1 shows some of the various physiological and mental functions related to driving that are adversely affected at specific BAC levels. At the 0.08 BAC level, braking, steering, lane changing, and judgement are degraded and virtually all drivers are substantially impaired.⁵

Numerous investigators have analyzed how different measures of driver-related performance are reduced at different blood alcohol levels. These studies typically compare performance on a specific task related to driving at different BACs against a baseline measure of performance of no alcohol. These studies suggest a decrement range (from the control baselines) of roughly 10 percent to 70 percent, with the median at about 35 percent, for a 0.08 BAC level. In

reviewing the literature, NHTSA concluded that a general pattern appears showing a decrease in performance of a particular task at the lowest BAC level and a further decrease in performance with increases in BAC.⁶

To what extent does a 0.08 BAC law help save lives? There are only a few studies that provide a quantitative answer to this question. Four key studies reported in the literature use different measures or methodologies to determine the relative success or impact of a 0.08 BAC law. For example in a study which compared five states with a 0.08 BAC law to five “similar” or control states that had not enacted this statute but had a 0.10 BAC law, investigators found that, overall, states with 0.08 BAC laws experienced a post-law reduction of 16 percent in the proportion of fatal crashes involving fatally-injured drivers whose BAC was 0.08 percent or greater.⁷ Because states vary on many different factors, it is difficult to pick ideal control states for comparison purposes. When different control states are used, different results may be reached. Another study analyzed six different measures of driver

⁵ NHTSA. 0.08 BAC Illegal Per Se Level. p. 1.

⁶ NHTSA. Driving Under the Influence: A Report to Congress on Alcohol Limits. Oct. 1992. p. 5.

⁷ Ralph Hingson et al. “Lowering State Legal Blood Alcohol Limits to .08%: The Effect on Fatal Motor Vehicle Crashes.” American Journal of Public Health. Sept. 1996. v. 86: 1298.

involvement in alcohol-related fatal crashes in each of five states before and after the effective date of a 0.08 BAC law. The study revealed statistically significant reductions in 9 out of 30 data points (6 measures in each of 5 states) of driver involvement once a 0.08 BAC law became effective.^{8 9}

It, however, is difficult to quantify precisely the effect that is attributable only to a state reducing its per se law from 0.10 BAC to 0.08 BAC. The impacts of changes in other state traffic laws or increased police enforcement in a particular state are two examples of spurious or confounding variables that could affect research results. Two other studies reported in the literature deal only with the impacts of a 0.08 BAC law on one state and are therefore excluded from this analysis because of problems generalizing from these studies and other limitations, such as the introduction of administrative license revocation shortly after the introduction of 0.08 BAC law in this same state.¹⁰

The potential benefits of 0.08 BAC laws need to be considered within the context of potential costs. This analysis is difficult because there are relatively few studies that quantify these costs. Nevertheless, it is well known that arrest of alcohol-impaired drivers is a high priority in the law enforcement community and it is considered a fundamental and necessary cost.¹¹ To the extent that the reduction in a BAC limit from 0.10 to 0.08 percent leads to more arrests, additional demands are placed on enforcement resources and time. With recent reductions in traffic enforcement resources in many states, the time needed to enforce effectively 0.08 BAC laws only compounds resource problems. But, the incremental costs of processing additional violators due to enforcement of a 0.08 BAC law, instead of a 0.10 BAC law, are relatively minor, especially when considered within the

⁸ Delmas Johnson and James Fell. “ The Impact of Lowering the Illegal BAC Limit to .08 in Five States in the U.S.” 39th Annual Proceedings. Association for the Advancement of Automotive Medicine. Oct. 1995: 1-20. These investigators found: “ The remaining 21 measures were not statistically significant at the 0.10 level. Of these, the majority, 16 measures, showed decreases in the level of driver involvement in alcohol-related fatal crashes. Five of the 21 measures that were not statistically significant showed increases in the level of driver involvement in alcohol-related crashes.” p. 8.

⁹ The Johnson and Fell study used six different measures of driver involvement in alcohol-related fatal crashes to analyze changes in the level of crashes when the before 0.08 BAC law time periods were compared to the period after implementation of such a law. Because there is no measure of driver involvement in alcohol related fatal crashes that is perfect or accepted by all, these investigators used the same six measures of this variable for each of the five states studied. Examples of the measures of alcohol involvement include: all drivers 21 years of age or older with any alcohol who were involved in fatal crashes as reported in NHTSA’s fatal crash record system, those who were reported as intoxicated with a BAC level equal to or greater than 0.10 percent, and those who were reported by the police with alcohol involvement.

¹⁰ ALR is the immediate administrative suspension of a driver license for failure to pass or take an alcohol -evidential test at the per se level of that state.

¹¹ Personal communication with International Association of Chiefs of Police, 1997.

framework of total law enforcement costs. Thus, the incremental costs of implementing a 0.08 BAC law instead of a 0.10 BAC law appear to be minimal.

On the other hand, the potential costs savings to society that might be realized as a result of implementation of a 0.08 BAC law are quite large.¹² The benefits accrued from one or two lives saved every few years in any one jurisdiction would more than pay for the additional costs of additional arrests due to enforcing a 0.08 BAC law. Furthermore, there are other savings for enforcement personnel when their states enact a 0.08 law. As a NHTSA study found, “The major difference is that, in cases where the chemical test indicates a BAC of 0.08 or 0.09, it is no longer necessary for the arresting officer to produce supporting evidence demonstrating the individual is under the influence.”¹³ This same study found that the reduction in the BAC limit from 0.10 percent to 0.08 percent had minimal impacts on the way court administrators and judges implement their responsibilities.¹⁴

If decision makers in state governments are to make more informed choices on whether to enact 0.08 BAC laws, then additional evaluation studies are needed. Future studies could examine the impacts of this measure over a longer period of time and in additional states. Until additional evidence is developed that makes a more compelling case, the reliability of estimates forecasting the potential number of alcohol-involved fatal crashes that might be prevented as a result of nationwide enactment of 0.08 BAC laws is uncertain. The NHTSA does have underway a variety of additional studies examining the impacts of 0.08 BAC laws. Additional research on the costs of implementing 0.08 BAC laws on the law enforcement community and the court system also would assist decision makers.

Selected Arguments for a 0.08 BAC Law or Imposition of a Federal Penalty Against a State Without Such a Law

Numerous health, safety, law enforcement and insurance groups favor enactment of a 0.08 BAC law in each state; but, there are substantial disagreements as to how this goal is to be achieved. For example, Mothers Against Drunk Driving and Advocates for Highway and Auto Safety favor the imposition of a penalty against any state failing to enact a 0.08 BAC law. The U.S. DOT now supports the imposition of a penalty against those states that fail to enact a 0.08 BAC law. In contrast, the National Association of Governors’ Highway Safety Representatives favors each state enacting a 0.08 BAC per se law, but is against imposition of a penalty.

Advocates of 0.08 BAC laws present many different arguments in favor of enactment of this measure, including:

¹² NHTSA estimates that the costs associated with U.S. traffic crashes exceed \$150 billion per year.

¹³ NHTSA. *Driving Under the Influence: A Report to Congress On Alcohol Limits*. p. E-2.

¹⁴ *Ibid.*

- The 0.08 BAC level is the appropriate and scientifically-based legal definition for a conviction aimed at combating impaired driving. This per se level recognizes that at 0.08 BAC all motorists are too impaired to drive safely.
- Vigorous implementation of 0.08 BAC laws serves as a general deterrent to people drinking and then driving, and thus helps prevent crashes due to alcohol use. In those states with a 0.08 BAC law, potential drivers who have been drinking may ask themselves: Will my next drink push me over the legal limit? Am I willing to risk an arrest and likely conviction for drunk driving?
- Reducing the blood alcohol level needed for a conviction of DWI (Driving While Intoxicated) or DUI (Driving Under the Influence) from 0.10 BAC to 0.08 BAC may reduce the likelihood that a prosecutor will plea bargain for a lesser charge when someone tests near the 0.10 BAC level. In other words, a prosecutor might be more inclined to seek conviction of a seriously impaired driver whose BAC limit is marginally at the 0.10 level under a 0.08 BAC statute than under a 0.10 BAC statute. Under a 0.10 BAC law, some prosecutors might be more inclined to plea bargain if someone tests slightly above or at 0.10 BAC.
- The 0.08 BAC level will increase the willingness of some law enforcement personnel to spend the time and resources necessary first to arrest someone for driving under the influence or while intoxicated, and then to participate in court proceedings by supplying documentation needed for a conviction.¹⁵
- Effective implementation of a 0.08 BAC law has the **potential** for preventing as many as 500 to 600 fatal crashes each year due to alcohol. This calculation assumes a 5 percent reduction in alcohol-related fatalities in those states with 0.10 BAC laws in 1996.

Those who support a provision that would require any state that does not have a 0.08 BAC law to lose a portion of its Federal Highway Trust Fund monies argue:

- Experience demonstrates that the threat of losing highway trust fund monies gets the attention of state legislatures and stimulates the approval of stronger traffic safety laws. This approach has proven useful in convincing all states to adopt age 21 drinking laws and in convincing 47 states to adopt zero tolerance laws for drivers less than 21 years old.
- It is in the national interest to convince all of the states to enact 0.08 BAC statutes. This objective will only be accomplished in a timely manner if the

¹⁵ In a state with a 0.10 BAC law, if a police officer thinks someone will test at or near the 0.10 BAC level, he or she must decide whether to spend the time needed to test someone and to prepare the necessary documentation for a case as well as the time in court to testify. In a state where the cutoff point is at the 0.08 BAC level, law enforcement personnel can reasonably take more of a chance to make this investment.

federal government threatens to reduce the highway trust fund monies of a state.

Selected Arguments Against a 0.08 BAC Law or Imposition of a Federal Penalty Against a State Without Such a Law

Those who are against 0.08 BAC laws could argue:

- There are relatively few drivers (850-1000) estimated to have a 0.08 to 0.10 BAC who are involved in fatal crashes each year. Most of the alcohol-related fatal crashes involve drinking drivers operating at 0.10 BAC or above. New laws should focus on the problem driver impaired with a substantial quantity of alcohol, perhaps at .14 BAC or higher.
- There are many other countermeasures, such as administrative license revocation and sobriety road checks, that have been shown to be effective in reducing fatalities resulting from alcohol-impaired driving. During the last 15 years, there has been a steady decline in alcohol-related traffic deaths, even without widespread implementation of 0.08 BAC laws.
- A 0.08 BAC law could adversely affect the alcohol and restaurant industries by reducing the amount of alcohol consumed. Some maintain that a 0.08 BAC would adversely affect those who want to drink socially.¹⁶

Debate over enactment of a 0.08 BAC law raises the question: At what blood alcohol level should it be illegal to operate a vehicle? Different levels have been imposed on different types of drivers and different age groups. For example, for younger drivers, 47 states have decided this level is 0.02 BAC or less. A truck or bus driver that is convicted of operating a commercial vehicle at or above the 0.04 BAC level is disqualified for at least one year according to federal and state regulations.¹⁷ Even though a 0.08 BAC level for non-commercial drivers of age 21 or older would bring this nation closer to the impaired driving limit now used by many other industrialized countries, most states have chosen to use the 0.10 BAC cutoff.

The imposition of a federal penalty would raise an array of additional concerns. Many state officials and organizations, such as the National Conference of State Legislatures, assert that each state should determine its own traffic safety laws without federal pressure or dictates. Since 1990 roughly two states each year have enacted a 0.08 BAC law, without the threat of a federally-imposed sanction. Many other states are considering the enactment of such a measure. In addition, those against the proposed penalty could assert that this sanction would be contrary to a current shift of power away from the federal government to the states. Others also could argue that the weight of evidence documenting the effectiveness of a 0.08

¹⁶ A 0.08 with a glass of wine after dinner. It is reasonable to conclude that a 0.08 BAC law does not generally target “light” social drinkers.

¹⁷ Enforcement officers will place a commercial driver out-of-service if any alcohol is detected .

BAC law needs to be strengthened before the federal government forces enactment of this measure on all states.

There are other options that might be considered to encourage the adoption of 0.08 BAC laws as well as other alcohol countermeasures. Congress could reauthorize the basic concept now embodied in the existing alcohol countermeasure program called the “Section 410” program. This traffic safety incentive grant program provides the states with additional monies from the Federal Highway Trust Fund (above their apportioned amount) if a state enacts or implements a variety of traffic safety countermeasures aimed at reducing alcohol-impaired driving. Both the House and Senate reauthorization initiatives propose such incentives.^{18 19}

During the last 15 or so years, several different federal penalties threatened against the highway apportionment of a state have been imposed with mixed results.²⁰ The use of such sanctions to achieve national purposes typically raises objections from the states. As stated by the National Association of Governors’ Highway Safety Representatives:

Sanctions also ignore the efforts of the states to do the right thing. Currently 20 states legislatures are considering 0.08 BAC legislation. If any of the states fail at these efforts, they could be penalized, regardless of how hard they tried to enact the necessary legislation. Sanctions create a tremendous amount of state resentment toward the federal government, even if the sanctions are for good public policy purposes. Repeated use of penalties and sanctions do much to reinforce negative state attitudes toward safety issues — exactly the opposite of what the federal government intends.²¹

It also can be argued that sanctions should be reserved for only those traffic safety initiatives that would save the largest number of lives. For example, if all states adopted primary seat belt enforcement laws, the potential life savings would probably be substantially larger than if all states adapted a 0.08 BAC.²²

¹⁸ On the other hand, under the proposed legislation, the states can qualify for Section 410 monies without enacting a 0.08 BAC law. Also, the amount of money that is being offered per year, typically less than \$1 million per state, is unlikely to be sufficient by itself to prompt many additional states to enact 0.08 BAC laws.

¹⁹ H.R. 2400 and an amendment to S. 1173 introduced by Mr. Hollings and Mr. McCain

²⁰ This strategy was successful in helping to get all states to adopt laws prohibiting underage purchase and possession of alcohol, but was not successful in getting all states to comply with the national speed limit compliance level (when in force) or the mandate to mix crumb rubber with a percentage of pavement (when in effect).

²¹ National Association of Governors’ Highway Safety Representatives. Letter. March 24, 1997.

²² Written communication from NHTSA. 1997. NHTSA estimates that about 1700 lives would be saved annually if all states passed primary enforcement seat belt laws.

Conclusion

Debate over such initiatives as a 0.08 BAC per se limit which seek to strengthen state laws regarding impaired driving due to alcohol use evoke substantial emotions. The imposition of a penalty against a state for not enacting a 0.08 BAC statute would add to the intensity of the ongoing debate, but would most likely accelerate the adoption rate of this measure. Even without a sanction, additional states will likely adopt this measure, but at a slower pace. The multiple facets of this issue suggest that the current debate over 0.08 BAC laws, with or without a federal sanction provision, is likely to continue at either the federal or state levels for several years.

