

# **PREVENTION STRATEGIES AND POLICIES**



# Canada's Strategy To Reduce Impaired Driving Experience To Date and Future Aspirations

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## Keywords

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## Abstract

In Canada, over the past 20 years, significant progress has been made in reducing the number and severity of road crashes in Canada despite an increase in the number of drivers, vehicles and estimates of kilometres driven on Canadian roads.

While this progress is significant and laudable, the number of people killed or injured on roads in Canada is still unacceptably high. The leading contributor to deaths on our roads is impaired driving. Each year, alcohol-related crashes contribute to as much as 40% of traffic deaths. Thus, a key area of concern in addressing traffic collision casualties is the management of the issue of impaired driving and its consequences.

This paper gives an overview of past, current and future work that is being done at the provincial and national levels to help address the problem of drinking and driving. We conclude that over the 11 years since its inception, Canada's Strategy To Reduce Impaired Driving (STRID) has facilitated the development of key pieces of anti-drinking and driving infrastructure in the different Canadian jurisdictions. Recent enhancements to this strategy are aimed at capitalizing on the components of this infrastructure to reduce the magnitude of drinking and driving and its adverse consequences in Canada.

## Introduction

Impaired driving is the leading contributor to fatal collisions in Canada. For example, collision statistics (1) from 1999 revealed that:

- 33% of fatally injured drivers has been drinking
- 82% had BACs in excess of 80 mg%
- 34% of fatalities involved alcohol – 1,134 persons
- 30% of fatalities involved a drinking driver

Efforts to manage this problem have been a high priority road safety issue in Canada for many years and have attracted a lot of activity from both government and non-government

organizations. While these organizations can individually advance the fight against drinking and driving, our experience in Canada has revealed that real progress in developing the necessary infrastructure to assist in dealing with this problem requires a concerted effort. In Canada, the Canadian Council of Motor Transport Administrators (CCMTA) has assumed the coordinating role for this effort.

CCMTA is a non-profit organization comprised of transportation representatives of the provincial, territorial and federal governments of Canada. It also includes associate members from the private sector and other government departments whose expertise and opinions are sought in the development of strategies and programs (2).

CCMTA reports to the Councils of Deputy Ministers and Ministers Responsible for Transportation and Highway Safety. This essential link to the political decision making process has helped to inform politicians of the nature and magnitude of the drinking and driving problem and the potential solutions. This is particularly crucial for those solutions that cannot be advanced without political intervention.

In 1990, the Council of Ministers directed CCMTA to proceed with programs to reduce by 20% the number of traffic fatalities involving impaired drivers by 1995. To do this, CCMTA worked with interested stakeholders to develop a Strategy to Reduce Impaired Driving (STRID) in which each jurisdiction was encouraged to develop a four year plan; establish a central coordinating agency; establish an inter-agency committee; coordinate enforcement and awareness programs; develop and implement mandatory treatment programs; and implement legislative initiative by the end of 1993(3). This initial attempt at actualizing the elements of this strategy showed us that such programs have very long gestation periods.

STRID 2001(4) adopted a staged approach to drinking and driving program development. It contains three core elements that relate to initiatives in the areas of enforcement and awareness, legislative change, and communications. It then set out a number of optional programs. We shall look at each of these groups in turn.

The choice of a strategy that was divided into core and optional elements was deliberate. Rather than signifying the relative importance of these program elements, it reflected the pragmatic need to achieve our ultimate goal in small steps. At the time when this strategy was proposed, these new initiatives entailed a significant paradigm shift in the way in which jurisdictions were being asked to look at and manage the drinking and driving problem. Thus, providing a flexible model from which jurisdictions could choose, based on political and legislative opportunity, and resource availability, was essential.

With regards to enforcement and awareness, STRID 2001 recommended that jurisdictions undertake high profile enforcement and awareness campaigns during the Christmas season as well as participate each spring/summer in a nationally coordinated enforcement and awareness campaign. The objectives of these joint awareness and enforcement initiatives are to increase the public's perceived risk of apprehension for drinking and driving and thus deter this practice.

The core legislative initiative under STRID 2001 was geared at getting jurisdictions to toughen the consequences for drinking and driving for first and multiple offenders by recommending that

jurisdictions implement minimum licence suspensions of 1, 3 and 5 years for a first, second or third offence respectively. A five-year look-back window for determining multiple offences was also recommended.

An additional core element of STRID 2001 was a coordinated communications plan to increase the visibility of STRID. This was felt to be an important element for politically and publicly promoting the strategy to facilitate the introduction of the proposed initiatives. This includes an annual monitoring report and the support for a fatality database related to impaired driving.

In addition to the core elements described above, STRID 2001 encouraged jurisdictions to adopt a number of other initiatives in the areas of education, legislation and assessment/rehabilitation.

The optional educational initiatives are directed principally at liquor establishments and the enforcement/judiciary communities. An example is the introduction of mandatory server training programs as a requirement for obtaining an operating licence. The enforcement and judiciary communities, as the first line of interaction with impaired drivers, were also seen as the targets of education specifically tailored and focused at raising their awareness and knowledge of the severity of the impaired driving problem in Canada.

A number of “best practice” legislative initiatives were included in the optional section of the strategy. These are measures that have been found to be among the most promising approaches to reducing alcohol-related crashes (5). These legislative initiatives are:

- An immediate administrative licence suspension for 90 days if a driver is found to be over the legal limit of 0.08 or refuses a breath/blood test;
- The use of an ignition interlock device with periodic monitoring, as part of a relicensing program;
- The use of vehicle-based sanctions such as vehicle impoundment, vehicle immobilization, licence plate tagging or confiscation for driving while suspended; and
- Removal of exemptions for work permits.

The strategy also recommended jurisdictions to introduce mandatory assessment and rehabilitation programs for drinking and driving offenders.

Very few jurisdictions were able to implement the recommended programs of STRID by the target date. STRID 2001 was renewed in 1995 without having met the initial target but with a new target of a 20% reduction in the percentage of fatalities and serious injuries by 2001. Although we are yet to completely tally all our achievements as compared to our goals, we are in a position to comment on what we have been able to accomplish.

## **Results**

In the years subsequent to the introduction of STRID 2001, we saw a significant amount of progress in the implementation of the core and optional elements by the various Canadian jurisdictions. Although it took a while for jurisdictions to get going, the implementation across the jurisdictions occurred in relatively rapid succession.

As of the year 2001, eight jurisdictions had implemented minimum licence suspensions that are at least equal to the recommended periods of 1, 3, and 5 years for first, second, and third or

subsequent offences. It is interesting to note that apart from Alberta that already had a licence suspension regime similar to the STRID recommendations in 1986, the next jurisdiction to make a significant change towards meeting this recommendation was Saskatchewan in 1996. The majority of jurisdictions implemented this change during the latter years (1998-1999) of STRID 2001. Although STRID 2001 recommended a look-back window of 5 years, four jurisdictions have implemented a 10-year look-back window.

All the Canadian jurisdictions have been active in the areas of enforcement and awareness during the Christmas period and have actively initiated activities to promote the visibility of STRID as laid out in the strategy. A number of different non-government organizations have been particularly active and instrumental in keeping the issue of drinking and driving in the public eye. No nationally coordinated effort has yet been set up for the spring/summer periods although some jurisdictions individually undertake enforcement and awareness campaigns during that period.

A significant number of the optional program elements of STRID 2001 have also been implemented by the various jurisdictions. A synopsis of the status of this is shown in table 1.

**Table 1: Licence suspensions in Canadian jurisdictions for drinking and driving**

Jurisdiction	Administrative Licence Suspensions	Vehicle Impoundment	Ignition Interlocks	Assessment and Rehab
North West Territories	--	--	--	--
Yukon	1998	1998	1998	1998
British Columbia	1997	1997	--	--
Alberta	1999	2002	1990	1985
Saskatchewan	2001	1996	2001	1996
Manitoba	1989	1989	--	1998
Ontario	1996	1999	2001	1998
Quebec	1997	1997	1997	1997
New Brunswick	--	--	--	Pre 1993
Nova Scotia	1995	--	--	1999
Prince Edward Island	1997	1997	--	1997
Newfoundland	--	--	--	1995

A fair amount of work remains to be done in the area of education and awareness for the enforcement and judiciary communities. That is an area of STRID 2001 that has not yet seen the necessary concerted push from all the interested stakeholders.

As mentioned earlier, the STRID 2001 objective is to reduce by 20% the percent of fatalities and serious injuries involving a drinking driver by 2001. An examination of the data available as of the end of 1999 (1) indicate that:

- i) there has been a 23.1% decline in the percent of motor vehicle fatalities involving drinking drivers, from 39% in 1995 to 30% in 1999;
- ii) the percent of drivers involved in alcohol-related serious injury crashes has decreased by 9.5%, which is from 21% in 1995 to 19% in 1999.

## **Discussion**

As can be seen from the foregoing, a significant amount of the recommended STRID infrastructure is in place and work on developing the other remaining components is ongoing. Crash statistics indicate that reductions have occurred in the magnitude of the alcohol-crash problem in Canada since STRID 2001 was endorsed in 1995. These declines are, however, in part due to a continued decrease in the number fatally injured drinking drivers and an increase in the number of fatally injured drivers who were not drinking.

In spite of these reductions, the alcohol crash problem is still significant. To continue the drive to eliminate impaired driving in Canada, a new strategy (6), STRID 2010 has been developed. This strategy builds on the experience and lessons learned from its two predecessor strategies as well as a recent national workshop on impaired driving. This workshop was held in October 2000, and brought together government and non-government stakeholders to discuss the issue of impaired driving and come up with new ways of managing the problem (7).

STRID 2010 is a key building block of a new Canadian Road Safety Vision with a national target of a 30% decrease in the average number of road users killed and seriously injured during the 2008 - 2010 period over comparable 1996 - 2001 figures. STRID 2010's contribution to this target will be:

To achieve a 40% decrease in the percentage of road users fatally or seriously injured in crashes involving alcohol.

In the new strategy, the categories of core and optional elements have been dropped. We believe that enough momentum has been generated by the initiatives that have been developed so far that the initial political inertia at introducing innovative programs have been essentially overcome. STRID 2010 proposes that in addition to continuing to work on the unfinished elements of STRID 2001, jurisdictions in partnership with interested stakeholders also work to implement the following strategic initiatives aimed at hardcore drinking drivers, new/young drivers, social drinkers, and first sanctioned drivers.

### **Education and Awareness**

- Educate police, justice departments and the judiciary on the nature and management of drinking and driving and its consequences.
- Implement and maintain awareness programs in schools from an early stage (i.e., kindergarten through Grade 12) with appropriately targeted messaging.
- Highlight the costs associated with drinking and driving.
- Target/personalize educational campaigns for different audiences.

### **Role of Policing**

- Train and encourage more police officers to develop Drug Recognition Experts (DREs) and more use of the Field Sobriety Tests (FSTs).
- Streamline procedures for processing drinking drivers.
- Encourage officers to lay more criminal charges rather than 24-hour suspensions.
- Lobby for increased police resources to help increase the perceived risk of apprehension.
- Encourage police to use passive sensors as an aid for investigating drinking drivers.

### **Policy/Legislative Initiatives.3.1.2 Legislative Initiatives**

- Record and track roadside and administrative license suspensions on the driver record.
- Make it an offence to refuse a Field Sobriety Test.
- Introduce escalating sanctions based on BAC level to provincial regulations.
- Widen the search (look-back) window for drinking and driving sanctions to 10 years.
- Introduce reduced BAC thresholds for multiple offenders.
- Take advantage of any technological innovations for enforcing drinking and driving.

### **Health Promotion**

- Introduce mandatory assessment/rehabilitation programs and a timely follow up.

### **Linkages**

- Representatives from the medical and injury prevention fields and other appropriate stakeholder agencies should be encouraged to become more involved in STRID.
- Linkages with the enforcement and justice communities should be strengthened.

### **Monitoring, Research and Evaluation**

- Jurisdictions should continue to use the STRID framework to support the monitoring/evaluation of the implementation of STRID 2010 through to the year 2010.
- Prepare a mid-term performance report of STRID 2010 in the year 2006.

### **Other Elements**

- Develop sub-models under STRID for managing the safety impacts of other potential causes of driving impairment, particularly in the areas of drugs, fatigue, and distractions.

Based on our experience with STRID thus far, we conclude that a well-formulated and communicated national plan that is developed with both government and non-governmental input, with associated and measurable targets, is a useful tool for guiding the development of the needed infrastructure for eliminating drinking and driving.

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# The Potential Legal and Policy Implications of Lowering the *Criminal Code* BAC Limit in Canada

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## Abstract

This paper examines the potential legal implications of lowering the *Criminal Code* BAC limit in Canada, particularly for enforcement, prosecution and sentencing. It also examines how a lower federal BAC limit would interact with various provincial and territorial highway traffic statutes, which impose short-term roadside licence suspensions on drivers with BACs of 0.05% or higher, or who are believed to be impaired. While none of the implications poses a barrier to lowering the *Criminal Code* limit, certain complementary legal changes would make this lower limit more effective and easier to enforce.

## Background

Canada established its current 0.08% *Criminal Code* BAC limit in 1969. In the more than three decades that have followed, breath-testing instruments have become more accurate, public attitudes toward impaired driving have hardened, and scientific research has demonstrated that significant impairment begins at levels well below 0.08%. In response, the international trend has been to reduce *per se* BAC limits to 0.05% or lower.

The Canadian federal government has been reluctant to follow the international trend. In 1999, the House of Commons Standing Committee on Justice and Human Rights rejected proposals to reduce the *Criminal Code* BAC limit to 0.05%.<sup>[1]</sup> However, since calls for a lower limit were renewed in 2001 by MADD Canada, the Canadian Medical Association and others, it is timely to assess the legal and policy implications of such a change to ensure that they are more adequately addressed in the next round of legislative consultations. Several unique legal issues arise from Canada's constitutional division of powers, which requires governments to coordinate the federal criminal law with provincial licensing provisions and law enforcement.

## Canada's Constitutional Division of Powers

Under the *Constitution Act, 1867*,<sup>[2]</sup> both the federal and provincial governments in Canada have authority to enact legislation addressing impaired driving. The federal government has broad legislative authority over criminal law and criminal procedure. In turn, the provinces have authority over the administration of justice, property and civil rights, and the licensing of drivers.

The federal impaired driving provisions are contained in the *Criminal Code*.<sup>[3]</sup> The primary offences are driving or having care or control of a motor vehicle when one's ability to do so is impaired by alcohol or a drug (s. 253(a)), and driving or having care or control of a motor vehicle when one's BAC exceeds 0.08% (s. 253(b)). In addition, the *Criminal Code* sets out the grounds that police require to demand breath samples for analysis on approved screening devices (ASDs) and evidentiary breath-testing instruments. The failure to provide samples without a reasonable excuse is a criminal offence. Although the federal government would be encroaching upon the provincial licensing power if it imposed licence suspensions, it has constitutional authority to impose federal "driving prohibitions" as a penalty upon conviction. These prohibitions apply across the country.

The provincial impaired driving laws are typically contained in highway traffic or motor vehicle licensing legislation. Due to the constitutional division of powers, the provinces cannot enact legislation creating a "criminal" offence. Nevertheless, they do have authority to create provincial offences in relation to their areas of legislative control. Thus, the provinces can and have created various driving-related offences. However, rather than creating provincial impaired driving offences, the provinces have restricted their impaired driving legislation to more regulatory provisions that seek to improve public safety and restrain unsafe driving behaviour. With the exception of Québec, every jurisdiction in Canada has a law allowing police to suspend a driver's licence at roadside if the driver is believed to be impaired or has a BAC above a threshold level, usually 0.05%. These suspensions last from 12 to 24 hours. However, the provincial legislation does not create an offence, and the suspensions are not generally accompanied by a fine or other sanction. In most provinces, there are no standard record-keeping procedures and few, if any, long-term consequences for accumulated suspensions.

One of the policy issues that arises is whether a *Criminal Code* BAC limit of 0.05% would have a greater deterrent effect than the provincial roadside suspensions that are already enforced in most jurisdictions. The clearest distinction between the two provisions is the nature and status of the violation. Federal *Criminal Code* offences carry a significant social stigma and leave an offender with a permanent criminal record. Criminal behaviour is perceived as morally blameworthy. In contrast, provincial offences are infractions that carry no criminal record stigma and rarely involve social opprobrium. These comments apply with even greater force to mere provincial administrative sanctions, like short-term roadside licence suspensions.

In addition, the proposed *Criminal Code* BAC limit would presumably have significant penalties and lasting consequences. Currently, impaired drivers convicted under the *Criminal Code* receive a \$600 fine and a minimum one-year federal driving prohibition, and face the possibility of imprisonment. Moreover, a federal impaired driving conviction usually attracts adverse provincial consequences, such as a licence suspension and mandatory participation in a remedial program. Finally, a *Criminal Code* conviction has significant insurance consequences for the offender. These more onerous penalties, coupled with the stigma associated with criminal offences, would presumably have a much greater deterrent effect than the current short-term provincial roadside suspensions.

## Implications for Enforcement

The primary enforcement tool currently available under the *Criminal Code* is the ability to demand breath samples. A police officer can demand a breath sample on an ASD if he or she reasonably suspects that a driver has any alcohol in his or her body. In addition, police can demand samples on approved evidentiary instruments from any driver they have reasonable and probable grounds to believe has committed the offence of driving while impaired or driving with a BAC above 0.08% within the previous three hours. At first blush, a 0.05% *Criminal Code* BAC limit may appear to present enforcement problems for police, who often use visible signs of impairment to determine whether to demand a breath test on an ASD or evidentiary instrument. At a BAC of 0.05%, a driver will likely exhibit fewer and less obvious signs of impairment than at higher BACs, making it more difficult for police to develop the requisite grounds to demand the above tests.

However, these alleged enforcement difficulties ignore both the current low threshold for demanding ASD tests and emerging enforcement tools. As indicated, police can demand an ASD test if they reasonably suspect that a driver has any alcohol in his or her body. The manner of driving, the odour of alcohol on the driver's breath, difficulties answering questions, clumsiness in handing over documents, and the driver's admission that he or she was just at a bar could all create a reasonable suspicion that a driver had consumed alcohol. In addition, one can anticipate that Canadian police will increasingly use passive alcohol sensors like those commonly used in the United States. These small devices test a sample of ambient air around a driver's mouth and can detect whether he or she has been drinking. A positive reading on a passive alcohol sensor would, therefore, provide the requisite reasonable suspicion to demand an ASD test.

The results of an ASD test are not admissible in criminal proceedings as evidence of a driver's BAC. Nevertheless, the ASD results often provide the police with the legal grounds for demanding an evidentiary breath test. Presently, most ASDs in Canada are set to register a "fail" at a BAC of 0.10%, such that a driver's failure on the ASD provides the police with the grounds to believe that the driver's BAC is above the *Criminal Code* limit. If the *Criminal Code* limit were lowered to 0.05%, ASDs would simply need to be re-calibrated to reflect the lower threshold. Interestingly, ASDs are already set to register a "warn" at a BAC of 0.05%, the level at which most provinces currently impose a roadside suspension.

Moreover, a lower *Criminal Code* BAC limit would lower the threshold of "reasonable and probable grounds" required to demand an evidentiary breath sample. While it may be true that drivers with BACs of 0.05% exhibit fewer signs of impairment than those with BACs of 0.08%, the *Criminal Code* only requires that the reasonable and probable grounds relate to the commission of an offence. If the offence were defined as driving with a BAC of 0.05%, rather than 0.08%, the threshold degree and evidence of impairment would correspondingly be lower.

One of the major enforcement implications of a lower BAC limit would be to reduce the *de facto* BAC threshold at which most drivers are charged and prosecuted. Although the current *Criminal Code* limit in Canada is 0.08%, most drivers are not charged unless their evidentiary breath-test readings are at least 0.10%. This higher threshold stems from early case law, which acknowledged that the instruments used at the time were subject to a 0.01% margin of error.[4] Thus, a driver whose BAC is only 0.09% can often successfully defend criminal charges. To avoid wasted time on futile charges, police typically decline to lay criminal charges unless the

driver's BAC is 0.10% or higher. Indeed, in a recent survey, three-quarters of police indicated that they only charge suspects with impaired driving if their BACs are at least 0.10%.[5]

Although current evidentiary breath-testing instruments should not be subject to the same margin of error as earlier instruments, it can be assumed that police and courts will continue to accept a certain threshold below which they will not lay or prosecute criminal charges. For all intents and purposes, a 0.05% *Criminal Code* BAC limit would create a 0.07% *de facto* BAC limit. At this level, critical driving skills are significantly impaired and drivers are at a substantially increased relative risk of fatal crash. Therefore, even though a lower BAC limit would not likely be perfectly enforced, it would help to remove a dangerous population of drivers from the road.

Finally, a lower *Criminal Code* BAC limit would likely affect the interaction between provincial roadside suspensions and criminal charges. As indicated, most provincial highway traffic statutes allow police to impose short-term roadside suspensions at BAC levels around 0.05%.

Theoretically, provincial suspensions should be given to drivers with BACs in the 0.05% to 0.08% range, with drivers over 0.08% BAC being subject to federal criminal charges. However, in the above police survey, 42% of Canadian officers admitted that they sometimes or frequently release impaired driving suspects with a short-term provincial suspension, rather than proceed with criminal charges, even if the suspects' BACs are above the *Criminal Code* limit.[5]

Apparently, in many cases, provincial licence suspensions have become an alternative, rather than a supplement, to *Criminal Code* charges. A 0.05% *Criminal Code* BAC limit would likely reduce this *ad hoc* decriminalization of driving with a BAC just below and above 0.10%.

Ironically, after thirty years, a 0.05% limit may finally meet Parliament's initial intent of criminalizing driving with a BAC above 0.08%.

One of the main reasons cited for not laying criminal charges was that the process is too time-consuming. It takes an average of 2.6 hours to process a single impaired driving case to the point of laying a charge.[5] This situation discourages enforcement of the *Criminal Code* impaired driving offences and thereby reduces their deterrent impact. Consequently, this situation will need to be addressed if a lower *Criminal Code* BAC limit is to have as great an effect as possible. It is important that an amendment to lower the criminal BAC limit be accompanied by other efforts to streamline the processing and prosecution of criminal impaired driving charges.

### **Implications for Prosecution**

Currently, most impaired driving suspects in Canada are charged with both driving while impaired and driving with a BAC above 0.08%. However, the law in Canada prevents suspects from being convicted of more than one criminal offence for the same act.[6] Therefore, once an accused has been convicted of one of the impaired driving offences, the other charge must be stayed or withdrawn. An examination of criminal justice statistics indicates that more impaired driving offenders in Canada are convicted of the *per se* offence than are convicted of the driving while impaired offence.[7] Between 1994 and 1998, 61% of those charged with having a BAC above 0.08% were found guilty in the provincial courts, while 33% of such charges were stayed or withdrawn. A roughly corresponding 31% of those charged with driving while impaired were found guilty, while 61% of the charges for that offence were stayed or withdrawn.

The higher number of convictions for the *per se* offence is likely attributable to the more objective nature of the evidence required for that charge. In the absence of evidence to the

contrary, the results from the evidentiary breath test are proof of the suspect's BAC at the time of the alleged offence. Thus, where reliable BAC evidence is available, it can alone support a conviction for driving with a BAC above 0.08%. Conversely, it is often difficult to provide sufficient evidence to prove the offence of driving while impaired beyond a reasonable doubt. Although the higher courts have held that any degree of impairment, from slight to great, can support a conviction,[8] many lower court judges continue to apply a more rigorous test. Judges have been sceptical about police evidence of impairment, even when an accused has glassy eyes and slurred speech, smells strongly of alcohol, and exhibits poor coordination.[9][10] As a result, prosecutors apparently prefer to pursue charges for the *per se* offence, which is more objectively provable.

If the *Criminal Code* BAC limit were lowered, one could expect that prosecutors would rely even more heavily on the *per se* offence than on the driving while impaired offence. As the threshold BAC for conviction becomes lower, drivers will exhibit fewer outward signs of impairment, and the likelihood of obtaining a conviction for driving while impaired may decrease further. Thus, except in cases where no BAC evidence is available or where the BAC evidence is successfully challenged by the defence, the *per se* offence will likely become the offence of choice for prosecutors in impaired driving cases.

As indicated, given the accepted margin of error and certain defences, offenders with BACs just below and above 0.10% are less likely to be convicted than those with higher BACs. Consequently, accused drivers with BACs in this "borderline" range may defend their charges vigorously. Similarly, if the criminal BAC limit is lowered to 0.05%, a new borderline range around 0.07% will likely emerge. While it is unlikely that the borderline range will ever disappear, it is beneficial for obvious traffic safety reasons that the range be lowered.

Lastly, Parliament may wish to adopt measures to streamline the prosecution of drinking and driving cases. Driving while impaired and the 0.08% *per se* offence are currently classed as "hybrid" offences under the *Criminal Code*, meaning that the prosecutor can choose to proceed by either indictment or summary procedure. Heavier penalties are available through the indictment process, but the procedure is more complex and time-consuming. For example, an accused charged with an indictable offence is entitled to a preliminary hearing and can elect to be tried by a jury. Given that a lower BAC limit may initially lead to an increase in charges, it would be preferable to keep the process simple so that offenders can be processed expeditiously. Thus, if a tiered system of penalties is adopted, Parliament may choose to restrict prosecution of the lower BAC offence to the more streamlined summary conviction procedure.

### **Implications for Sentencing**

First-time impaired driving offenders are currently subject to a minimum \$600 fine and one-year driving prohibition. If the *Criminal Code* BAC limit is lowered, Parliament may need to re-evaluate these penalties. Section 718.1 of the *Criminal Code* states that the "fundamental principle" of sentencing is that "a sentence must be proportionate to the gravity of the offence and the degree of responsibility of the offender." Offenders with lower BACs will likely be considered less blameworthy than those with higher BACs, and therefore deserving of a lesser sanction. Indeed, section 255.1 of the *Criminal Code* already provides that BACs of 0.16% and higher should be considered as an "aggravating factor" in sentencing, thereby increasing the sentence that would otherwise be imposed.

This situation may be best dealt with through a system of tiered penalties, such as those that exist in other countries. While judges should retain some discretion in sentencing, the *Criminal Code* should provide minimum and maximum penalties for the various BAC ranges to ensure greater consistency across Canada. As an added benefit, the lesser penalties for the lower BAC offence may encourage defendants in the current “borderline” range to plead guilty to the lesser offence. In turn, prosecutors may be willing to accept such pleas rather than attempting to get a conviction for the more serious offence.

### **Conclusion**

The introduction of a lower *Criminal Code* BAC limit would have a range of implications on the enforcement, prosecution and sentencing of impaired driving offences in Canada. Police may be required to introduce more sophisticated breath-testing tools, such as passive alcohol sensors, and prosecutors may rely more heavily on BAC evidence than they already do. In addition, the current sentences may need to be re-examined in light of the *Criminal Code*'s fundamental principle of proportionality. Finally, a lower federal *Criminal Code* limit may affect the current interaction between criminal charges and provincial short-term licence suspensions. However, none of these implications creates a barrier to the introduction of a lower *Criminal Code* BAC limit. Rather, they indicate that a lower BAC limit would be most effective if accompanied by parallel reforms to improve enforcement, streamline the processing of impaired driving charges, and provide a more standardized, tiered framework for sentencing.

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# **Is the Short-Term Administrative Suspension A Second Best But Necessary Alternative to Criminal Code Sanctions**

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## **Keywords**

Administrative, Criminal Code, alcohol, short-term suspensions, impaired driving.

## **Abstract**

A common observation in most Canadian jurisdictions is that enforcement agencies are substituting short-term (12, 24 hour) administrative licence suspensions for a more rigorous criminal processing of drinking and driving offenders.

In most jurisdictions, no follow-up action is associated with short-term suspensions. This action is therefore viewed as a slap on the wrist for impaired drivers. This is a view that is equally shared by enforcement agencies and road safety administrators. Does this trend undermine efforts at managing the problem of impaired driving by applying these suspensions rather than pursuing a criminal charge?

There has been a call to associate some consequences for persons who are issued short-term suspensions. In Saskatchewan new drivers (those with less than 2yrs experience) get a 30-day suspension for a first 24-hour suspension and are required to attend an education course. For 2nd and subsequent offences, new drivers get a 90-day suspension and undergo screening for alcohol addiction. For experienced drivers no action is taken until their 3rd 24-hour suspension. A 3rd 24-hour suspension (within a 5 year period) attracts a 90-day administrative licence suspension.

We use Saskatchewan records to explore the frequency distribution of the number of 24-hour suspensions accumulated by experienced drivers. For multiple offenders, we shall investigate the distribution of the inter-arrival time between offences. We shall also look the nature of any relationships between short-term suspensions and Criminal Code convictions. We shall undertake a similar analysis for new drivers and compare the two groups of drivers.

## **Introduction**

A commonly acknowledged fundamental requirement for an effective impaired driving sanction is that it should be swift, certain, and severe (1). It is commonly argued that this combination is necessary to maximize the deterrent effect of such sanctions. The series of national strategies

that have been developed in Canada reflect this guiding principle (2). For instance, these strategies have encouraged the introduction of longer periods of license suspensions and immediate 90-day administrative suspensions for drivers with BACs in excess of the Criminal Code legal limit of 0.08mgs.

Most Canadian jurisdictions have also introduced supplementary administrative mechanisms for dealing with drivers who are caught driving at lower BAC levels. In most jurisdictions driving with a BAC in excess of 0.05mgs attracts an administrative roadside suspension. This typically involves issuing the driver a 12-hour or 24-hour roadside administrative suspension.

The suspected overuse of such short-term suspensions by enforcement agencies has become a source of concern for many road safety stakeholders. There is a suspicion that instead of going through the process of laying criminal charges for persons who may be driving with BACs in excess of the Criminal Code legal limit, enforcement agencies are taking the shorter route of simply issuing short-term suspensions. This worry is evidenced by the fact that one of the strategic initiatives identified in Canada's new impaired driving strategy (2) is that jurisdictions should encourage enforcement agencies to lay more Criminal Code charges rather than 24-hour suspensions.

Provincial administrators frown on this practice and often suggest that it undermines the effort to get tough with drinking drivers. The response of enforcement agencies is quite to the contrary. They argue that it takes too long to process one impaired driving charge by way of the requirements under the Criminal Code (3), a process that usually ties up two officers for a significant period of time. This, they go on to say, is quite challenging in a period when traffic enforcement resources have diminished. It takes away valuable enforcement presence from the traffic environment and thus diminishes the deterrent effect their visibility may have on drinking and driving. They observe that short-term roadside suspensions, on the other hand, takes the offender off the road immediately and still allows the officers to be around to apprehend or deter other offenders.

Most jurisdictions do not keep a record of short-term roadside suspensions. Thus, this information is not available for managing drinking drivers. This is another source of concern for some road safety stakeholders. STRID 2010 (2) addresses this concern by recommending that all Canadian jurisdictions record and track roadside administrative license suspensions on driver records and use this information as a management tool to identify and deal with repeat offenders.

In 1996, Saskatchewan introduced a number of new legislative initiatives to manage the incidence of drinking and driving. Among these were an increase in the license suspension periods for drivers who are convicted for Criminal Code drinking and driving offences, and a reduction, from 0.06mgs to 0.04mgs, of the BAC at which roadside short-term licence suspensions are triggered. For new drivers, that are those with less than 2 years of driving experience, a first 24-hour suspension attracts an immediate suspension of 30 days and they are required to attend an education course. For 2nd and subsequent offences, new drivers get a 90-day suspension and undergo screening for alcohol addiction. For experienced drivers no action is taken until their 3rd 24-hour suspension. A 3rd 24-hour suspension (within a 5 year period) attracts a 90-day administrative licence suspension. In 2001, the BAC at which a short-term suspension is triggered was reduced to zero for new drivers.

We shall use data from Saskatchewan driver records to explore the incidence of 24-hour suspensions since 1996. We shall look at how trends in the number of 24-hour suspensions compare to those of various Criminal Code drinking and driving offences. We shall also look at the recidivism rate of 24-hour suspensions and the characteristics of the inter-arrival time of these events for multiple offenders. Our analysis will explore these issues for both new drivers and experienced drivers.

### **Method**

Saskatchewan driver records from 1997 to 2001 were used for this analysis. The data extracted for this purpose pertained to those who had been involved in at least one 24-hour roadside suspension.

For each experienced driver, we identified the date of occurrence of the first 24-hour suspension. We added 3 years to this date to create a 3-year window. The latest possible date for the end-date for this window was December 31, 2001. Only drivers whose 3-year window fell on or before the end of 2001 were included in our analysis.

For each of these drivers, we computed the number of 24-hour suspensions that they accumulated during the 3-year window. The dates of occurrence of these offences were also noted. For drivers with multiple 24-hour suspensions, we calculated the inter-arrival times between these events. We also calculated the corresponding mean inter-arrival times and their standard errors. This information was used to construct 95% confidence intervals for the mean inter-arrival times. These were used to explore the differences between the different levels of multiple offenders.

Information on Criminal Code drinking and driving convictions for these drivers were merged with their concurrent 3-year data on 24-hour suspensions. For drivers with a chosen number of 24-hour suspensions over a three year period, we calculated the corresponding mean number of Criminal Code drinking and driving convictions and the associated standard error. As before, these were used to construct 95% confidence intervals for these means.

The approach described above was repeated for new drivers.

### **Results**

Table 1 shows the trend, over a five-year period, for the number of drinking and driving-related Criminal Code convictions. Table 2 provides similar information on short-term roadside administrative suspensions. The results in table 2 are further categorized into new drivers and experienced drivers.

The results indicate that from 1997 to 2001 there was a steady decline in the total number of Criminal Code drinking and driving convictions from 5,657 to 3,138 respectively. The drop was particularly great from 2000 to 2001. It is noted that this trend was similar for almost all the different types of Criminal Code drinking and driving offences.

The total number of short-term suspensions also declined from 1997 through 1999 but increased in 2000 and 2001. In 2001, a zero BAC requirement for short-term suspensions was introduced for new drivers. This may have led to the spike in enforcement activity with respect to these types of offences.

Table 3 shows the frequency distribution of the number of 24-hour/90 day suspensions and 30/90 day suspensions for experienced and new drivers. We note from this table that for experienced drivers with at least one short-term administrative suspension, 84.1% had only one offence; the proportions for second, and third offences were 13.5% and 2.1% respectively. It can also be observed that the proportional distribution for number of offences for new drivers with one of more short-term offences is very similar to that of experienced drivers – 84.9% had one offence, 13.1% had 2 offences, and 1.9% had three offences.

**Table 1: Drinking and Driving Criminal Code Convictions by year**

Conviction Type	1997	1998	1999	000	2001
Over 0.08	4,477	4,095	3,879	3,493	2,533
Impaired Driving	953	972	989	824	512
Fail To comply with Demand	173	162	168	159	79
Impaired Driving Causing Bodily Harm	48	38	26	28	14
Impaired Driving Causing Death	6	4	7	1	0
	5,657	5,272	5,069	4,505	3,138

**Table 2: Yearly Trend in Number of Short-Term Suspensions**

Year	30/90 day suspensions for new drivers	24-hour suspensions for experienced drivers	Total Short-Term Suspensions
1997	307	6,367	6,674
1998	605	5,727	6,332
1999	863	5,137	6,000
2000	874	5,227	6,101
2001	1,072	5,708	6,780

**Table 3: Frequency Distribution of Experienced vs. New Drivers with One or More 24-hour Suspensions Within a Three-Year Window**

Count of suspensions	Experienced Drivers No. of drivers	Experienced Drivers % of drivers	New Drivers No. of drivers	New Drivers % of drivers
1	9,303	84.1%	728	84.9%
2	1,492	13.5%	112	13.1%
3	235	2.1%	16	1.9%
4	36	0.3%	1	0%
5	1	0%	-	-
6	1	0%	-	-

In table 4, we present information on the average time (in days) between short-term suspensions for both experienced drivers and new drivers. The results in the table show the mean inter-arrival time between first and second offences (for drivers with two, three or four offences), the mean time between second and third offences (for drivers with three or four offences), and the mean time between third and fourth offences (for drivers with four offences). We note from this table

that for both experienced drivers and new drivers, the mean inter-arrival time between first and second offences, and between second and third offences decrease with the number of offences that the driver has. For instance, the average time between a first and a second offence for an experienced driver with two offences was 432.6 days as compared to 172.8 days for a driver with four offences. Also, when we look at drivers with the same number of short-term suspensions, the inter-arrival times between similar events for new drivers and experienced drivers were not significantly different (statistically).

Table 5 provides information on the average number of Criminal Code convictions for drivers with different numbers of short-term suspensions. The average number of Criminal Code convictions increased with the number of short-term suspensions. For instance, experienced drivers with three short-term suspensions had twice the average number of Criminal Code convictions, as did those that had only one short-term suspension.

**Table 4: Inter-arrival Time Between 24-hour Suspensions Experienced vs. New Drivers**

No. 24-hour suspensions	95% Interval for Mean(t12) <b>Experienced</b>	95% Interval for Mean (t23) <b>Experienced</b>	95% Interval for Mean(t34) <b>Experienced</b>	95% Interval for Mean(t12) <b>New</b>	95% Interval for Mean(t23) <b>New</b>
2	432.6 ± 17.4			377.6 ± 50.8	
3	302.0 ± 34.0	261.4 ± 31.6		235.3 ± 87.8	365.7 ± 87.4
4	172.8 ± 73.0	192.9 ± 72.2	311.1 ± 96.0		

Note: t12 is the inter-arrival time between the first 24-hour suspension and the second, t23 is the interval between the second and the third, and t34 is the time between the third and fourth.

**Table 5: Average number of Criminal Code (CC) convictions for experienced drivers with 24-hour suspensions for experienced drivers**

Count of short-term suspensions	95% Interval for Mean No. of CC convictions <b>Experienced</b>	95% Interval for Mean No. of CC convictions <b>New</b>
1	0.57 ± 0.02	0.51 ± 0.04
2	0.91 ± 0.04	0.87 ± 0.16
3	1.12 ± 0.14	1.31 ± 0.44

## Discussion

The results of our analysis showed that the number of Criminal Code impaired driving-related convictions in Saskatchewan decreased from 1997 through 2001. The annual count of short-term suspensions also appear to have decreased from 1997 to 2000 and increased in 2001. Overall, the drop in Criminal Code convictions from 2000 to 2001 does not appear to have been compensated for by an increase in the number of short-term suspensions. Additionally, the decreasing trend in both 24-hour suspensions and Criminal Code convictions from 1997 through 2000 may suggest a general reduction in the level of enforcement of drinking and driving or a reduction in the incidence of the drinking and driving problem. It does not appear to suggest that enforcement agencies are systematically shifting practices from Criminal Code charges to issuing more short-term suspensions. As mentioned earlier, we suspect the new zero BAC requirement

for short-term suspensions for new drivers that was introduced in 2001, and its associated publicity, may have led to a spike in enforcement activity with respect to these types of offences in 2001.

Our results indicate that both new and experienced drivers exhibit a recidivism rate of about 15% for events that trigger short-term suspensions. The re-offence rate for both groups is also a decreasing function of the number of offences. This, in our opinion, is a mixed finding. On the positive side, it does indicate that the issuing of short-term suspensions may be contributing to a propensity for drivers to not re-offend. On the other hand, because the penalties associated with short-term suspensions are more severe for new drivers, one would have expected a much lower recidivism rate as compared to experienced drivers. This may be because the lengthy suspension periods do not necessarily have any real implications for subsequent drinking and driving decisions taken by new drivers. It may also suggest that there may be a need for other types of actions in association with these suspensions.

We found that the average inter-arrival time between similar suspension events decreases with the total number of suspensions. This seems to suggest that the number of short-term suspensions is an indicator of the existence of a persistent drinking and driving problem. From a policy perspective, an interesting extension of this finding will be the application of Bayesian techniques to estimate the probability that a driver will have a three or more short-term convictions within a selected time window given the inter-arrival time between his/her first and second short-term suspensions.

Our results also indicate that police are not issuing only short-term suspensions. The fact that the average number of Criminal Code convictions is an increasing function of the count of short-term suspensions may be an indication that police are using appropriate discretion in deciding whether to issue Criminal Code charges in addition to short-term suspensions. We are unable to assess whether or not the average values of Criminal Code convictions that we estimated for the various levels short-term suspensions are too low. However, we conclude that the number of short-term suspensions an individual has is indicative of the probability of their involvement in Criminal Code convictions.

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# Application of 0.05% legal blood alcohol limits to traffic injury control in Bangkok

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## Introduction

Traffic crashes are the leading cause of death for persons between the ages of 15 and 59 in Thailand. Traffic injuries and deaths cost the nation over 213 million USD in lost economic productivity, hospital and property costs. 44% of traffic injury cases seeking emergency services in public hospitals had blood alcohol concentration (BAC) of 0.1% or more. To reduce alcohol related traffic injuries and deaths, a law was enacted setting criminal per se legal blood alcohol limit at 0.05% in 1994. Penalty includes a fine of up to 250 USD or 3-month jail term or both. Apart from the legal BAC law, there are a few laws restricting alcohol availability i.e., prohibition of sales 24 hours before the end of election day and closure of bars and nightclubs before 2 am.

However, not until 1997, an active public education program has been undertaken at national scale to raise awareness against drink driving and to support law enforcement. This includes dissemination of knowledge through multiple channels e.g., roadside posters; stickers on the back of vehicles; sporadic radio and TV programs or spots; public announcements; the press reports. In 1998, highly visible sobriety check points consisting of 17 police officers have been set up as a measure for law enforcement on a rotating spot on the road network in Bangkok at night time from 1-4 a.m. (initially from 10 p.m. to 1 a.m.) 3 times a week. The road network covered a total area of 1,565 square kilometers of Bangkok Metropolis with 3.8 million registered motor vehicles. The public education program and the law enforcement activity (considered together as drink driving campaign in this report) were a joint initiative of tripartite partners i.e., public sector, business sector and the third sector. Ministry of Public Health (MOPH) and Police Department represented the public sector and were responsible for implementing the activities with some supports both in cash and in kind from the business sector. The Club Against Drunk Driving, an NGO headed by a medical doctor, played a pivotal role in coordinating and monitoring. While another NGO, the National Health Foundation, was responsible for outcome evaluation sponsored by Thailand Research Fund, a quasi-governmental- research funding agency.

In order to systematically assess the campaign, multiple methods were used to collect relevant data i.e., hospital surveillance of alcohol-related injuries and deaths from traffic accident at emergency rooms (ER) in public hospitals; surveys of attitudes, perceptions and practices pertinent to the campaign among road users. This report focused on the outcomes of the campaign based on the hospital surveillance data during March 2000 to November 2001.

## **Methods**

Out of 21 public hospitals in Bangkok, 4 hospitals volunteered to take part in the study. These had been among the top 5 public hospitals with the highest records of trauma cases. The total number of traffic injury cases among the 4 hospitals accounted for 44% and 47% of all reported cases by public hospitals in Bangkok in 1998(45,341 injured) and 1999(43,310 injured), respectively. Given the facts that sobriety check points have been set up at night time only and a prior report of high prevalence of drink driving at night time, this study chose to monitor injury cases accordingly. All traffic injury cases seeking care at the ER's during 6p.m. to 6a.m. was interviewed by a nurse using a standard questionnaire and tested for BAC using a breathalyzer(Lion Alcometer SL400) after giving an informed consent. A proxy interviewer was used if patients could not participate due to severe medical conditions e.g., coma, drunkenness, hypovolemic shock. A blood sample was obtained for BAC if a breathalyzer could not be used in cases with impaired consciousness or in dead cases. The interview included demographic profile, road user status(driver, pedestrian, passenger), mode of travel, time of crashes and of arrival at ER. Medical record of each case was reviewed by a nurse to provide information about the nature of injuries and discharge status from ER. Data collection at ER's were undertaken during the second week of each month(Monday till Sunday) on alternate month starting from March 2000 till November 2001.

Data were entered and processed using the program Epi Info, version 6.0. Descriptive statistics, ANOVA test and Chi-square test were undertaken where appropriate. A statistically significant level was considered at  $p < 0.05$ .

## **Results**

During the specified period, 1853 traffic injury cases(92%) out of a total of 2014 cases participated in the study. The majority(80%) of subjects were male and 83% were 15-44 years of age. 64% were drivers. 70% traveled on motorcycles, the most common modes of transportation in the city. 40% of the victims had alcohol in their blood. The majority of those with blood alcohol had alcohol level in excess of the legal limit.

With regard to injury severity, most of the subjects (74%) suffered from a minor injury not requiring hospitalization. Yet over one fourth could be considered severely injured and 1% loss their lives.

During the study period, BAC among the victims varied from nearly 40 mg/dl to 60 mg/dl without statistical significant difference.

## **Discussion**

Findings from this study clearly indicated that alcohol-related traffic injury had the lion's share of traffic injury (49.9%) among ER cases in Bangkok. Yet, this claim could be biased toward public hospital setting since private hospitals were not included. Actively working-age men were the

most affected group of population (83% of the cases whereas this age group constituted only 36.8% of general population). They were relatively under privileged. Given the fact that 43% of 3.7 million registered motor vehicles in Bangkok was motorcycles<sup>5</sup>, motorcycling disproportionately constituted the biggest mode of travel used by the victims. Nighttime traveling on Bangkok roads could be regarded as an increased risk of traffic injury since the proportion of nighttime victims in this study was out of proportion to the number of nighttime road users.

After 24 months of law enforcement and over 2 years of public information campaign against drink driving, evidence from this study failed to support the effectiveness of the campaign in terms of reducing alcohol-related injuries. In the opposite, it might suggest a rising trend of alcohol-related injuries.

From the deterrence theory's point of view, law enforcement in combination with publicity has to reach a certain scope and intensity in order to raise driver awareness to an extent that they do not want to take risk of being detected and penalized for drink driving. In Australia and Canada, for instance, 82 % to 63% of motorists reported having been stopped and tested for alcohol at some point and 47% to 28% reported having been stopped and tested three or more times. During the decade of 1980s Australia enjoyed a decline of drinking and driving by 32% while the figure for Canada was 28%<sup>9</sup>.

In comparison to successful campaigns against drink driving in the West, the law enforcement activity in Bangkok was much more limited in scope and intensity. The sobriety checkpoints covered a tiny fraction of the road network with a very low frequency of operation (3 times weekly) hence reaching a small number of drivers. 5 months after commencement of the checkpoints, a survey of 1027 drivers, mostly (38%) motorcyclists, in 10 randomly selected gas stations revealed that only 10.4 % of respondents reported being stopped by a police for BAC testing during the past 2 months. 1000 drivers interviewed on the telephone survey in the same month reported a similar figure (9.2%). 82% and 94% of subjects in the former and the latter studies, respectively, perceived a very low chance of being stopped by a police for BAC testing even though over 90% accepted the benefit of law enforcement.

What is the explanation for too limited law enforcement activity? Circumstantial evidence suggested that low policy commitment in terms of clear instruction and effective resource allocation to police force played a key role. The first piece of evidence came from the investigators' attempt to persuade police force to set up an independent test of BAC on drivers. This aimed for systematic feedback to the campaign in terms of changes of drink driving behavior. Regrettably, the attempt was denied by police officers of all stations in Bangkok citing a reason that there had not been any instructions and instrumental support to do so. This finding coincided with another piece of evidence from documentary review by the investigators. The review on the annual plan of Police Department for the fiscal year 2000 revealed a law enforcement project against drink driving without a target or measurable objective and without clearly specified amount of budget.

Personal interview with a few police officers revealed that cumbersome prosecution procedure could also hampered apprehension and charging drinking drivers. In Thai system, a detected drinking driver has to be transferred from the checkpoint on road site to police station in order to

be prosecuted. Decision on penalty has to be finalized in court. These steps clearly create additional burden on over-burdened police force.

This report concludes that if legislative measure, a policy instrument, would be effective in road safety improvement in developing countries, it seems to be a need for strong policy commitment. This has to be translated into workable plan of actions, effective resource allocation and management. The successful movement of “Mother Against Drunk Driving” in the US exemplifies a key role of civil society in policy adoption and implementation, which has not yet reached a meaningful momentum in Thailand. The next step of policy advocacy in Thailand should shift the focus from personal responsibility to state responsibility to effectively enforcing the law. This entails revelation of those weaknesses in law enforcement mechanism and possible remedial actions to overcome. For instance, prosecution procedure should be revised to minimize unnecessary burden to police force; action plan should be clearly laid out with measurable objectives and concrete instrumental support. A systematic independent evaluation should be put in place to provide timely feedback to policy implementation, a role the health sector could play and influence other sectors in public health advancement.

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# **Drinking in the United States: Myths, Realities, and Prevention Policy**

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## **Keywords**

Alcohol, consumption, policy

## **Abstract**

There is a widespread perception that alcohol is an integral part of American life and a normal accompaniment to most social events. It is often assumed that most Americans drink on a regular basis. These perceptions are not entirely true, but have a major influence on our attitudes towards alcohol and our policies regarding the sale and consumption of alcohol. These attitudes and policies, in turn, affect the incidence impaired driving and alcohol-related crashes. This paper will provide a more accurate picture of drinking in the United States.

## **Introduction**

Alcohol is an integral part of American life. It is a normal accompaniment to most social events. Most Americans enjoy drinking on a regular basis. These are widely held perceptions about alcohol—created in part by alcohol advertising and popular culture. But they are perceptions that are not entirely true. These perceptions—and misperceptions—affect our attitudes towards alcohol and our policies regarding the sale and consumption of alcohol. This paper provides a more realistic picture of who drinks, how much, and how often. It compares the drinking patterns of adults to those of young people under 21. It then analyzes the implications of these drinking patterns for alcohol policy.

## **Methods**

Data on alcohol consumption in the US were analyzed to show the way alcohol is consumed and the problems associated with that consumption. The data are from National Household Survey on Drug Abuse, an in-home interview with a national probability sample of the US.

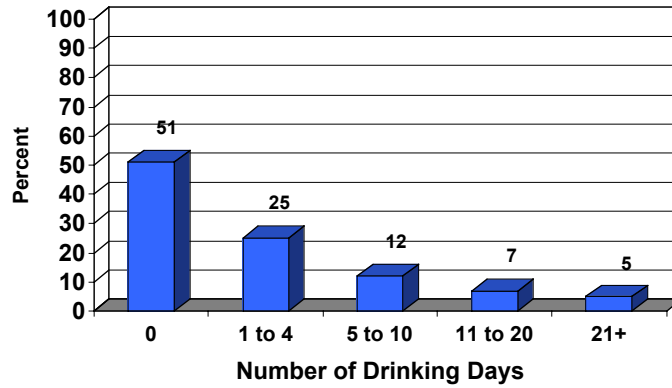
## **Results**

### ***Adults: Who drinks and how much?***

A large majority of Americans either do not drink or drink infrequently. According the National Household Survey (1) about 51 percent of adults (21 years of age and older) report that they did

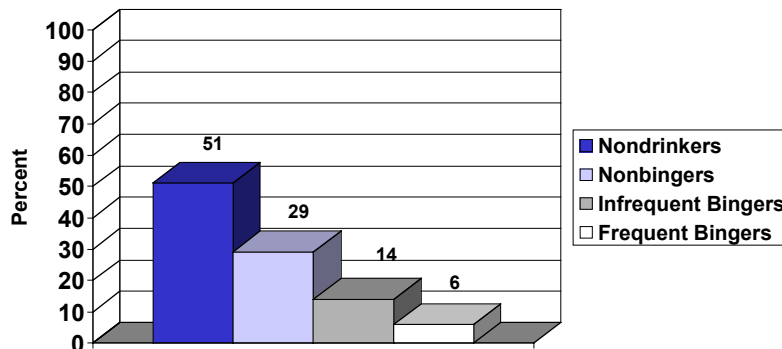
not consume any alcohol in the past month and an additional 25% report drinking once a week or less. (See Figure 1.)

Figure 1  
Frequency of Drinking Among US Adults 21 and Over  
(Past 30 Days)



Source: National Household Survey on Drug Abuse, 1999

Figure 2  
Drinking Patterns Among US Adults 21 and Over  
(Past 30 Days)



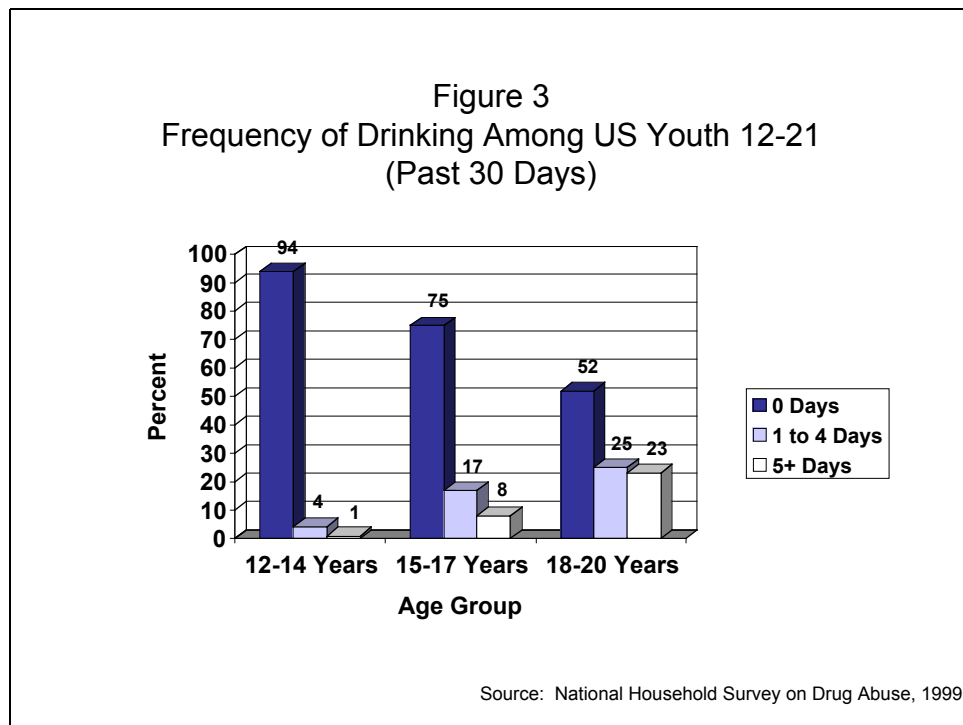
Source: National Household Survey on Drug Abuse, 1999

In addition to information about how frequently people drink, it is also important to examine the quantity people typically drink on each occasion. Figure 2 provides information about adults 21 and over regarding whether they have five or more drinks per occasion (termed here a “binge”). Among adults, 51% did not drink at all and 29% drank, but did not have five or more drinks on any occasion. That is, 80% of adults do not drink at this level.

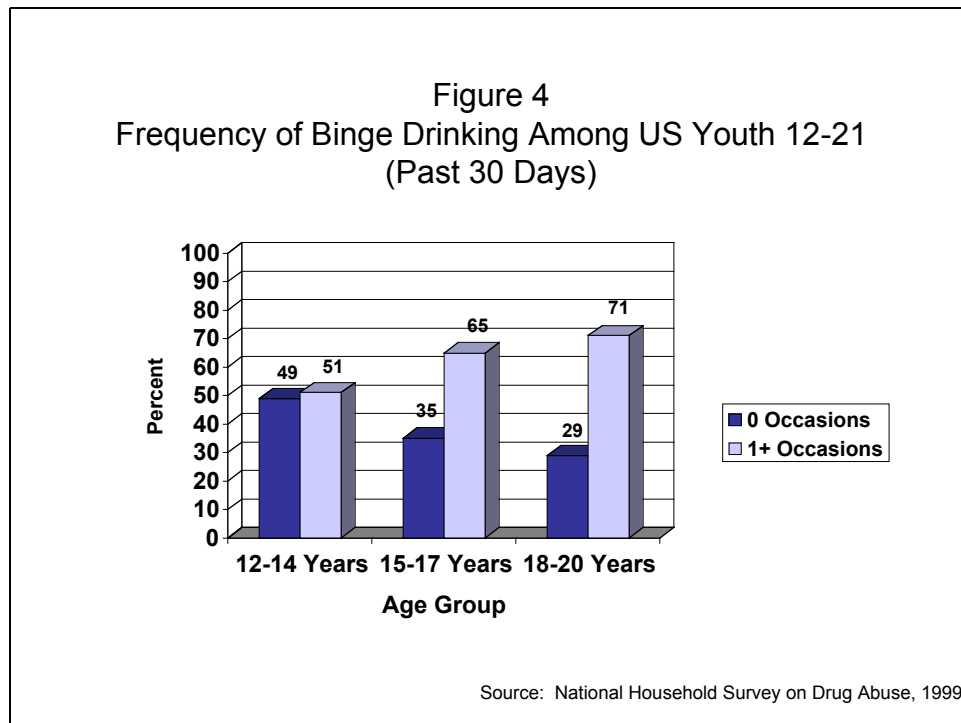
The average number of drinks consumed by drinkers who do not binge was less than three per week. By contrast, the heaviest drinkers (who have had five or more drinks at a time five or more times in the past month—“frequent bingers”) represent about six percent of the adult population but drink 50 percent of the alcohol consumed. These statistics show the importance of heavy drinkers for the alcohol market. Alcohol sales are dependent on the heaviest drinking consumers in that 83% of the alcohol consumed by adult drinkers is consumed by 20% of the population. Only 22 percent of all alcohol is consumed in a “moderate” fashion (defined by the US government as two drinks or less at a time (2)).

***Underage: Who drinks and how much?***

The picture for underage drinking is somewhat different. The drinking age in the US is 21. Most young people reported to the National Household Survey that they had not had anything to drink in the last month. About 94% of 12 to 14-year-olds reported that they had not drunk alcohol while 75% of 15 to 17 year-olds and 52% of 18 to 20-year-olds reported that they had not drunk in the preceding month. Figure 3 shows the proportions of young people reporting drinking at different frequencies.



In terms of the quantity of drinking (Figure 4), the proportion of young drinkers who report drinking heavily (five or more drinks at a sitting) is higher than for adults. While about 30% of adult drinkers report heavy drinking on one or more occasions in the past month, 51% of the 12 to 14-year-old drinkers, 65% of the 15 to 17-year-old drinkers and 71% of the 18-20 year old drinkers report heavy drinking in the past month. Thus, among young drinkers, heavy drinking is the norm, especially for older adolescents.



The young people who drink heavily consume the vast majority of the alcohol consumed by their age group. Percentages range from 45% for 12 to 14 year olds to 70% for 18 to 20 year olds. Underage drinkers consume about 12 percent of all the alcohol purchased in the United States and the vast majority of this alcohol is consumed in a risky fashion.(3)

**Discussion**

How do social beliefs about drinking affect efforts to prevent problems associated with drinking? Social norms and expectations play a powerful role in shaping the alcohol environment at both the community and societal level. The belief that most adults drink in moderate amounts without problems translates into public policies that make alcohol readily available at low prices and permit widespread marketing that communicates only positive messages about alcohol’s effects. These policies in turn create an environment that encourages alcohol use and downplays its potential for public health and safety harms.

Although Americans may think that alcohol policies are simply helping to meet the demand from moderate-drinking adults, this alcohol-saturated environment is in fact accommodating heavy and hazardous drinking by a small minority of consumers, many of whom are underage. The environment undercuts efforts to reduce alcohol-related problems such as impaired driving.

The common public perception is that the majority of people drink alcohol and that most alcohol is consumed in a moderate fashion. Given these perceptions, the public and policy makers are often reluctant to impose restrictions and controls on how alcohol is manufactured, promoted, sold, and consumed.

Most Americans do not drink frequently and most alcohol is consumed by heavy drinkers and in a risky fashion. Controls, therefore, have little or no impact on the majority of Americans and these controls *can* reduce heavy and hazardous drinking and reduce alcohol-related problems. Alcohol sales are, in fact, dominated by a relatively small minority of the population who drink heavily. Policies and norms that promote ready alcohol availability support and encourage these problematic drinking behaviors. Policies that can change the environment to decrease consumption and alcohol problems include:

- Increases in price
- Controls on alcohol outlet density and location
- Restrictions on advertising and promotion
- Strengthening and enforcing minimum purchase age laws
- Restrictions on alcohol consumption in public places or at public events

In fact, large majorities of the US population support stricter alcohol policies designed to reduce drinking problems, especially among young people.(4&5)

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# **Impact Of Alcohol Deregulation Policy On Traffic Crashes in Japan: A Natural Experiment Using Classical Time-Series Analysis**

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## **Keywords**

Alcohol availability, alcohol impaired driving

## **Abstract**

Laws and regulations governing alcohol availability need to be an essential part of an overall strategy to reduce alcohol-related morbidity and mortality. The removal of availability restrictions, pricing and taxation of alcoholic beverages, and its impact on alcohol-impaired driving related problems were the focus of this study, with particular reference to the Japanese society. Obviously the implementation of the deregulation policy has not increased drunk driving as hypothesized. The finding showed that compliance with alcohol-related driving legislations is high in the Japanese society, where alcohol is freely available.

## **Introduction**

The Japanese economy has witnessed a radical process of liberalization since the mid-1990s. Many sectors, which had previously been under direct government control, are now regulated by the competitive market place. Due to WTO (World Trade Organization) ruling, Japan-US negotiation on deregulation in 1990 and growing international pressure on the Japanese government, deregulation of alcohol production and sale were introduced in April 1994. One key issue in the reform of Japan's liquor legislation has been the extent to which alcohol should be freely available. The other is the globalization of alcohol brands and marketing designed to embed alcohol products and consumption in the lifestyles of most Japanese.

The socio-religious heritage of the Asian region, which was for a long period a bulwark in preventing alcohol harm, has and continuous to be eroded. Western drinking culture has become internationalized, spurred on in recent years by the market economy. Globally, efforts to promote alcohol use have increased in both prevalence and sophistication in the past 30 years. It is salutary to remind contemporary economists and politicians and their counterparts such as Cobden and Bright, two notable 19<sup>th</sup> century free traders and liberal politicians, would never have supported free trade in alcohol. Taken together, the results of various studies have clearly shown that control measures can influence drinking patterns, and in turn the rate of alcohol-related problems.

Importantly, effects of changes in alcohol prices and availability are also determined by the social, cultural, and economic circumstances characteristic to each country and period. The positive consequences for health and safety of reduced access to alcohol have been demonstrated in many jurisdictions in Europe and North America. This is one of the principal reasons why many governments have established policies and mechanisms to control and/or regulate the sale of alcohol. In Japan, minimum standards (ie. population density and distance between retail shops) required prior to granting retail license has been abolished in 1994. There are few, if any, constraints on locations of liquor sale outlets. Alcoholic beverages are freely available at 24-hour convenience stores throughout Japan (9). Following the deregulation policy in Japan in 1994, it is estimated that alcohol sale outlets increased by 8 percent.

### **The health implications of increasing alcohol availability**

Research continues to show a correlation between a high density of alcohol outlets and a high rate of alcohol-related problems in a community (1,3,5). Experts predict that deregulation will increase outlet density, hours and days of sales, and will have significant impact on the retail price in Japan (11). Availability changes expected with deregulation, traffic safety related problems are almost inevitable and recent research (6) has focused on several public health and safety problems related to alcohol availability, including general public consumption, crime and safety issues, traffic crashes, and youth access to alcohol, such as sales to underage drinkers. Like cigarettes, alcohol is available from outdoors vending machines in Japan, that perform no age verification, so the legal barriers against under-age drinking are somewhat theoretical.

### **Alcohol Availability and Traffic Crashes**

While contemporary reviews of the relationships between alcohol consumption and traffic-related problems generally concede a strong relationship between measures of alcohol sales and traffic crashes, reviewers have noted the inadequacies of correlational studies of these relationships (10) and the sometimes questionable empirical status of the surrogates used for both consumption and problem outcomes. It has been suggested that there may be no relation between overall alcohol consumption and drunken driving in Japan (2). While there are existing studies whose outcomes either deny or show ambivalence about the possibility of a link between availability and alcohol impaired driving, sufficient studies also exist which have indicated a positive relationship. Various links between alcohol availability and traffic crashes have been examined (4, 6,12) including the relationships between alcohol-related crashes and minimum legal drinking age; density of licensed alcohol outlets; and place of last drink and the resulting incidence of DWI (driving while intoxicated) arrests.

### **Methods**

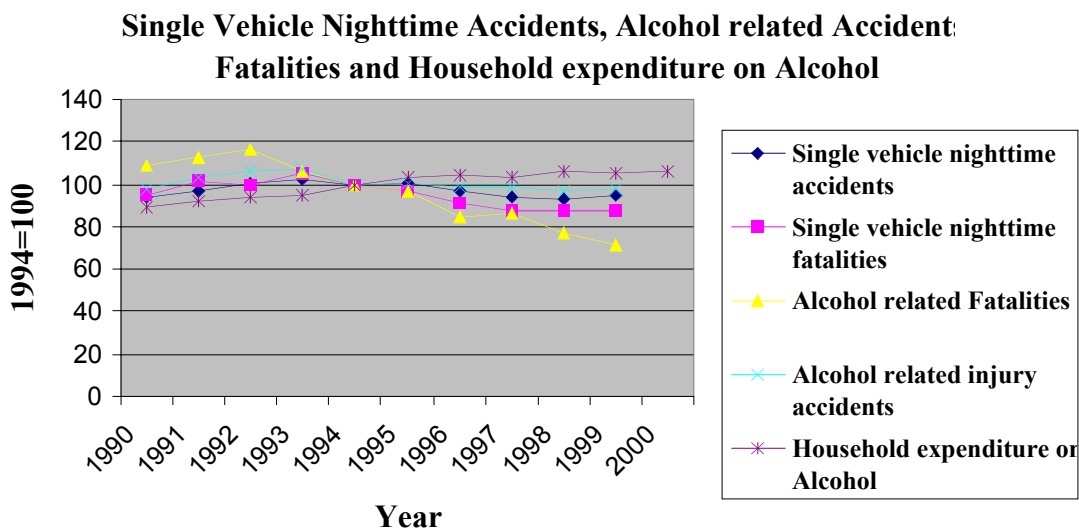
The methodology of the time series analysis, which has been utilized in this study, has a great advantage in examining alcohol availability and its impact on alcohol impaired driving and further the issue of whether or not the impact is permanent or temporary. Some problems with evaluation studies have not changed during recent decades. One clear limitation of the current policy evaluation literature on changes of alcohol availability is its restriction to societies that historically have both drunk a lot and worried a lot about drinking. In other words, available evaluation studies mostly originated from northern Europe, North America, Australia and New Zealand. Even though the basis of relevant evidence has broadened geographically, we still know too little about the effects of alcohol policy changes in Japan. With regard to different control measures, it is easy to find studies with contradictory results. Many contradictions may

and can be explained by complex statistical methods related problems, by problems in study design, or even by political objectives of the researcher.

## Results

No change occurred for single vehicle nighttime accidents or police reported alcohol-related crashes and mortality in the period of 1994-1999. In general, these results lend no support to view that the manner in which alcoholic beverages are freely available for public consumption can have an impact on alcohol related traffic crashes. The following observation also resulted by this analysis:

**Figure 1: Time series trend of Single Vehicle Nighttime accidents and fatalities**



Sources: Annual traffic data-Institute for Traffic Accident Research and Data Analysis  
Household Expenditure on Alcohol-Statistics on National Accounts-2001 Organization for Economic Cooperation and Development- - OECD

- There is no significant increase in the total amount of absolute alcohol consumed per adult in Japan after introduction of the deregulation policy. However since 1994 both wine and spirits consumption per capita increased by 166 and 23 percent respectively. Beer and sake consumption per capita decreased by 19 and 20 percent respectively, since the deregulation came in to effect in 1994. The modest decline in the much larger Beer and Sake markets offset the significant increase in the wine and spirits markets. Extant data are not adequate to address the beverage substitution hypothesis definitively in the Japanese context.
- The subsequent reduction in driving after drinking contributed to the significant reductions in traffic accident morbidity and mortality, while alcohol sales outlets had increased by 8 percent since 1994.
- The various changes discussed above facilitated the purchase of alcohol in Japan, and so enable people to consume alcohol without restrictions, or at least unwanted way. Surprisingly, reduction in Nighttime single vehicle accidents, alcohol related accidents and related mortality were the apparent outcome.

## **Discussion**

On the basis of the method used for the analyses, it is possible that the increased alcohol availability in various fronts and above changes in the number and type of outlets apparently not contributed to, rather than merely not correlated with, the changes in the alcohol impaired driving problems. These findings highlighted a potential conflict of interest, for they showed both positive and negative outcomes of the changing of the alcohol availability and type of outlets in Japan in 1994 and the after period. Irrespective of how many outlets are increased or permitted in total, for as many of them as possible to be for off-premise consumption in Japan, with the aim of minimizing traffic accidents. Past efforts to reduce alcohol-related problems by focusing solely on individual outlets or drinkers have proven inadequate to address the severity and persistence of these problems at the community level. The nature of the relationship between alcohol deregulation policy in 1994 and alcohol related traffic problem needs further research, although, there is no association appears to be positive in Japan. Therefore, it is recommended that the government proceed carefully in its review of the current system of alcohol sales and production, increased availability as the results of deregulation related initiatives and making public health and safety a pivotal issue.

## **Acknowledgement**

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