

# **UNDER AGE DRINKING**

**DEVELOP POLICY OPTIONS TO  
REVERSE THE PRESENT TREND  
FACING AUSTRALIA**

## INTRODUCTION

This review paper is in response to the letter dated 01 October 1998 by Margaret Norington Director Health Advisory Unit NHMRC. The Recommendations gives a clear view that there is an unanimous agreement between all sections of the community to reduce teenage death due to alcohol and new policies should be in place to help reduce the harm to our young people caused by alcohol. What is not unanimous here in Australia is what those strategies should be. The aim of this paper is to give us the information to make those decisions.

### **1. Alcohol Related Problems in Australia and Lowering the Drinking Age**

Here in Australia we lowered the drinking age from 21 to 18 in Western Australia on July 1, 1970 while the corresponding date for Queensland was February 18, 1974. In South Australia the drinking age was lowered from 21 to 20 years with effect from December 19, 1968, and then to 18 years as from April 8, 1971. A similar two stage process occurred in Tasmania, with the 20 year drinking age becoming effective as from September, 1967, and the 18 year limit as from January 22, 1974. By contrast, New South Wales has had an 18 year drinking age since 1905, Victoria since 1906, and the Australian Capital Territory and the Northern Territory since approximately 1929.

Since lowering the drinking age in Queensland, South Australia, Tasmania and Western Australia had the same adverse effect on traffic accidents as in North America, it is reasonable to predict that raising the drinking age in Australia will have the same beneficial effects as in North America.

Rather than a return to the previous 21 year drinking age, the following factors appear to favour a 20 year limit.

A 20 year drinking age would ensure that alcohol is removed from secondary schools. This was apparently one of the main reasons why the drinking age was raised from 18 years in Ontario, Canada.<sup>14</sup>

Presumably for safety reasons, for articulated vehicles and buses the minimum driving age throughout Australia is at least 20 years. Thus, not only is there a precedent for using the age 20 years, but it also shows that 18 and 19 year olds who can automatically vote cannot legally do all the activities of older persons.

A recent U.S. study found evidence that the major positive effects on traffic safety are achieved by raising the drinking age to 20 years. A further increase to 21 years only appeared to have a much smaller effect, although the researchers were careful to point out that for this point the statistical analysis was not conclusive.<sup>18</sup>

#### **The age group affected by the new drinking age**

Lowering of the drinking age has been found to affect both the new legal drinkers (e.g. 18 to 20 year olds) and the age group immediately below (e.g. 16 to 17 year olds).<sup>12, 13, 15, 16, 17</sup>

Raising of the drinking age can therefore be expected to reduce the alcohol consumption and related problems for both these age groups, rather than only for the age group not now legally permitted to purchase and consume alcohol in public places.

#### **The duration of the beneficial effect**

In both North America<sup>19</sup> and Australia<sup>11, 15</sup> lowering of the drinking age was found to have adverse effects extending beyond the first two or three years. If raising of the drinking age in Australia is found to have beneficial effects for extended time periods rather than only for two or three years, then this would have important policy implications. A U.S.<sup>18</sup> study found that the significant reduction in fatal traffic accidents extended beyond the first two or three years after the drinking age was raised. In contrast to many alcohol-related driving countermeasures, raising of the drinking age in Michigan was found to have a long term effect in reducing the accident involvement among young drivers.<sup>20</sup> A recent New York study found that three years after the drinking age was raised from 18 to 19 years, the reduction in alcohol consumption by 18 year olds was of the same magnitude as during the first year after the raised drinking age.<sup>21</sup>

#### **Conclusions**

From the evaluation studies reviewed above it is clear that lowering of the drinking age in four of the Australian States adversely affected traffic safety, juvenile crime, and emergency hospital admissions for non-traffic accidents, attempted suicide, and injury purposely inflicted by other persons.

The points presented above indicate that the raising of the drinking age to 20 years in the states and territories of Australia is far more likely to be achieved than a return to the former 21 year drinking age. Any change in the drinking age in one or more of the Australian States should be the subject of a comprehensive evaluation study.

## **2. Minimum Drinking Age Stay at 18 or Raise to 20 or 21.**

If raising the drinking age is to have a significant effect on the incidence of traffic accidents among young people it would probably require that the age at which people could legally drink be raised by at least three years since it is widely observed that drinking is tacitly accepted in those only slightly, that is by one year, younger than permitted under the law. For the drinking age to be raised by as many as three years would probably be seen as too great an inconsistency given the other legal entitlements associated with achieving the age of 18.

During that period when they hold a probationary license, and no matter at what age, drivers are not permitted to have any alcohol in their while driving (the legal provision of less than 0.02 grams of alcohol per 100 ml of blood recognises that a certain amount of alcohol accumulates in the blood as a result of normal metabolism or as a consequence of some propriety medicines). As a consequence, while someone holding a probationary license (and the vast majority of such people are aged 17 to 19) may legally drive and if over the age 18 legally drink, they cannot do both, that is they cannot be found to be driving with any alcohol in their bloodstreams.

Nonetheless, research carried out in a number of Australian states has demonstrated that the introduction of such legislation significantly reduces the incidence of traffic accidents among probationary drivers.

Moreover, it would effect all probationary drivers (and therefore all inexperienced drivers who have the greatest risk of accidents) but predominantly effect those young drivers without representing a significant diminution in their legal rights. The fact that the rule would not only apply to young drivers would mean that it would be less obviously discriminatory.

This would be achieved without raising the drinking or driving age, nor would it preclude people aged 18 to 20 having access to licensed premises or drinking under other circumstances, or prevent 17 to 20 year olds from holding a driving license. Its introduction, when random breath testing is in place and when the police are committed to a high rate of stoppages, offers the prospect of its successful implementation and observance.

## **3.**

The benefit of using environmental (i.e., external) approaches, such as the MLDA, is further supported by the fact that drinking rates were reduced even after youth turned age 21. In contrast, individual approaches (i.e., school-based programs) have generated only short-term reductions in underage drinking. This finding suggests that to create long-term changes in youth drinking and alcohol-related problems, strategies that change the environment should

be used.<sup>3</sup>

Despite the MLDA of 21, minors still have easy access to alcohol from commercial and social sources. The observed benefits of the MLDA have occurred with little or no active enforcement; simply by increasing enforcement levels and deterring adults from selling or providing alcohol to minors, even more injuries and deaths related to alcohol use among youth can be prevented each year.

#### 4.

Thus the increased minimum drinking age appears to have been effective in reducing the overall drinking and driving prevalence primarily by deterring from driving those drivers who had been drinking one or a few drinks. Reducing the overall prevalence of drinking and driving is important as it might foster restrictive social norms regarding drunk driving. Friend's modeling of drinking and driving has previously been found to be a significant predictor of future drinking and driving among adolescents (Klepp, Perry and Jacobs, 1991.)

We do not have a good explanation of why the law seemed to be more effective in reducing heavy drinking and driving among males than among females.

Our findings are particularly interesting in that other studies have found that raising the legal drinking age to 21 has resulted in an increase in the rate of alcohol consumption (Allen, Sprenkel and Vitale, 1994; Engs and Hanson, 1989). In one study, a greater proportion of underage college students than legal-age students reported heavy alcohol use (Engs and Hanson, 1989). These authors, as well as Krithers and Gordon (1992), interpreted these results as consistent with psychological reactance theory. According to the theory, "when a free behavior of an individual is eliminated, his [or her] desire for that behavior or for the object of it will increase" (Brehm, 1966, p. 120). Based on psychological reactance theory we would hypothesize reactance would take the form of more drinking and driving behaviors among the Younger cohort.

The results from this study do not offer support for the theory of psychological reactance with respect to drinking and driving behaviors. None of the measures indicated an increase in drinking and driving among underage consumers following the introduction of the 21-year minimum drinking age law. On the contrary, the results provide some support for the notion that reduced alcohol availability actually reduced the overall rates of drinking and driving among underage consumers.

This study was conducted with subjects originally recruited from the graduating classes of 1985 and 1986 in four school districts in the Minneapolis-St. Paul metropolitan area. The fact that we were able to demonstrate a reduction in the prevalence of drinking and driving, even in this homogeneous population in the years immediately following the adoption of the 21-year minimum drinking age law, offers some support to the hypothesis that drinking and driving among underage adolescents decreases after raising the minimum drinking age.

#### 5.

What can we conclude from the results of the various analyses above? Perhaps the principal conclusion is that a minimum drinking age of 21 versus a minimum drinking age of 18 does indeed affect the behavior of high school seniors; it leads to lower consumption of alcohol. It has been demonstrated conclusively that alcohol-involved highway crashes decline among the

18- to 20-year old population, and the present research makes it clear that the decline is directly a result of lower levels of consumption. And it also appears that a major factor in the reduced rate of crashes is that the under-21 group spend less time in bars and taverns when the minimum drinking age is 21. Another important finding is that the lower rates of drinking appear to continue as young adults mature, at least through the early twenties. Thus, the lowered rates of drinking in the 18-20 age range are not compensated for by a higher rate of drinking after enfranchisement is achieved, but in fact continue even after alcohol is legally accessible.

These issues may continue to be debated. The contribution of the present research is to demonstrate that, whatever one wishes to make of other factors, there is a clear specific effect of a higher minimum drinking age: there is less drinking and consequently fewer fatalities. The effects on drinking are modest; nevertheless, modest differences in rate of drinking can be very important, particularly when those differences lead to lowered rates of fatal crashes. However, it should also be remembered that drinking remains a popular activity among high school seniors, even when the minimum drinking age is 21.

The popularity of drinking among seniors is not surprising. Alcohol use is a very common social practice among adults, particularly among young adults, and that alone would tend to make it an attractive activity for adolescents. And enforcement of minimum drinking age laws tends to be lax in most states. In addition, the use of alcohol is heavily promoted and glamorized in commercials; the entire aura around those commercials is pleasurable, athletic, sexual, fun - all the things that appeal to youth. Consequently, many more societal changes are needed in addition to changes in minimum drinking age laws if drinking among high school seniors is to be further reduced.

## **6.**

Although it is obvious that all teenagers who have not reached the legal minimum drinking age do not abstain from drinking, the data in this study suggest that a higher minimum legal drinking age reduces fatal crashes among those below the LDA. The further the driver's age is below the LDA, the lower the alcohol-related crash rates of those drivers.

This finding does not mean that alcohol-related deaths are just delayed. If the death rate of 21-year-olds are similar in states where the LDA is 21 and in states where the LDA is lower, as they are, then the reduced deaths among younger drivers associated with an LDA of 21 means that the net effect of the higher LDA is death reduction. The correlation among age, alcohol involvement, and night or single-vehicle crashes has apparently contributed to an underestimation of the "spillover" effect of lower LDAs on younger-than-legal-age drivers in previous studies using night and single-vehicle crashes as proxies for alcohol involvement.

Confidence in the validity of the model employed here is increased by the fact that another study (Jones et al. 1988) found similar results in an analysis of fatality rate from non-motor vehicle injuries in which alcohol is known to have been a contributing factor. In comparisons of all the states during 1979-1984, higher LDAs were correlated with lower death rates per capita among younger adolescents from homicides, suicides, and unintentional injuries other than motor vehicle injuries, as well as motor vehicle injuries. Thus the results reported here are apparently not confined to the states and years examined, nor just to motor-vehicle related deaths.

## **7.**

Laws prohibiting the use of alcohol by persons younger than 21 years should be supported and efforts should be made to eliminate military or other exceptions to such laws (apart from religious or medical uses). The rates of alcohol-related MVCs among drivers aged 15 through 18 years declined dramatically during a period characterized by extensive anti-DUI publicity and social pressure, stiffened DUI laws, and a new drinking age law that likely reduced opportunities for illicit access to alcohol. We cannot clearly apportion the responsibility for the benefits among these influences, but each appears contributory.

Special efforts to maintain awareness among high school students of the risks of DUI, and its social unacceptability, would appear to have the potential for generating large benefits at a fraction of the effort and expense required to maintain such programs within society at large. Such programs should be supported and strengthened.

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## **8. Youth and Alcohol Cost**

It should be noted that while drinking age and beer tax policies can reduce highway mortality, both policies also subject the innocent to punitive action. Economists have shown that the optimal method of deterring offenses is a program of certain and appropriate sanctions against the guilty. However, the high cost of increasing the probability of apprehension could limit the desirability of a program of specific sanctions. Further study of all policy options is required to determine the most effective method of limiting youth motor vehicle fatalities.

## **9.**

Becker has shown that the optimal way for a society to deter offenses is via a system of severe and fairly certain punishments. In the case of drunk driving, these might take the form of loss of driving privileges for long periods of time, mandatory community service, enrolment in alcohol rehabilitation programs, and prison sentences for repeat offenders. Of course, youthful drunk drivers may respond to an increase in the penalty of this offense only if the probabilities of apprehension and conviction are nontrivial. If substantial resources must be allocated to raising these probabilities, the excise tax policy may be preferable to or complementary with a system of severe penalties. Moreover, severe and certain punishments for drunk driving do not address the problems caused by the link between youth alcohol abuse and adult alcohol abuse. In conclusion, more research is required to formulate the best mix of policies to deal with youth alcohol abuse. Our study represents a useful first step in this process.

## **10. The Legal Drinking Age**

### **Background**

The Alberta Alcohol and Drug Abuse Commission (AADAC) has supported retention of a legal drinking (LDA) of 18 in Alberta. Past research on the effects of raising the LDA has produced mixed and often inconclusive results. This report provides an overview of the most recent research and public opinion on the effects of raising the LDA in Alberta and other jurisdictions. This information was considered by AADAC's Commission Board in the 1996 review of its LDA position.

### **Highlights of the Review**

Several recent North American studies provide strong support that raising the LDA has a long-term impact on lowering underage traffic fatalities. However, this research does not

identify the LDA as the sole cause for the change. The impact of raising the LDA depends on how it is implemented and what other measures accompany it.

The effect of raising the LDA on impaired driving offenses is not conclusive. This is largely due to the difficulties in controlling for confounding variables. These include concurrent changes to other impaired driving measures and other laws, as well as any publicity surrounding changes to the drinking age and new impaired driving measures. In addition, the contribution of prevention and education initiatives are often unclear.

Experience in other jurisdictions suggest that raising the LDA would be most effective under the following conditions:

- ☞ there is a three year increase in the drinking age from 18 to 21;
- ☞ there is no grandfather clause;
- ☞ there are separate driver education and licensing laws for youth;
- ☞ there is a mandatory seat belt law;
- ☞ there are increased penalties for impaired driving;
- ☞ existing laws are strictly enforced; and
- ☞ there is sufficient publicity accompanying any change.

In practice it is seldom possible to achieve all of these conditions at the same time.

*AADAC*

## REFERENCES

- 1 a. Anemaat, Peter., Principal Private Secretary, Office of the Premier, Queensland, 27 February, 1998.
1. Smith, D. I., PhD., Effect on Juvenile Crime, Traffic Accidents and Emergency Hospital Admissions of lowering the Drinking age in four Australian states. Presentation to the 35<sup>th</sup> International Congress on Alcoholism and Drug Dependence, Oslo, Norway, July 31 to August 6, 1988.
2. Hawks, David, Professor., *Implication of Raising the Minimum Legal Drinking Age*. Paper prepared at the request of the Western Australian Alcohol and Drug Authority, Perth, August, 1989, pg. 5, 6, 7.
3. Traci L. Toomey, PhD., The Minimum Legal Drinking Age. *Alcohol Health and Research World*, pg. 217.
4. Knut-Inge Klepp, Linda A. Schmid, and David M. Murray, Effects of the Increased Minimum Drinking Age Law on Drinking and Driving Behavior Among Adolescents, *Addiction Research* 1996, Vol. 4 No. 3, pg. 237-244.
5. O'Malley, Patrick M., PhD., and Wagenaar, Alexander C., PhD., Effects of Minimum Drinking Age Laws on Alcohol Use, Related Behaviors and Traffic Crash Involvement Among Minimum Youth, 1976-1987 *Journal of Studies on Alcohol*, 1 September, 1991, pg. 488, 489, 490.
6. Robertson, Leon S., Blood Alcohol in Fatally Injured Drivers and the Minimum Legal Drinking Age, *Journal of Health Politics, Policy and Law*, Vol. 14 No. 4, Winter 1989, pg. 823, 824, 825.
7. Deckler, Michael D., MD., Reduction in Motor Vehicle Fatalities Associated with an Increase in the Minimum Drinking Age. *JAMA*, December 23/30 1988, Vol. 260 No. 24, pg. 3610.
8. Saffer, Henry, and Grossman, Michael, Drinking Age Laws and Highway Mortality Rates: Cause and Effects, *Economic Inquiry*, Vol. XXV, July 1987, 403-417, pg. 415.
9. Coate, Douglas, and Grossman, Michael, *Journal of Law and Economics*, Vol. XXXI, April 1988, pg. 171.
10. James, Darlene, The Legal Drinking Age, Alberta Alcohol and Drug Abuse Commission, January 1996, pg. I.
11. Smith, D. I., and Burvill, P. W., Effect on Traffic Safety on Lowering the Drinking Age in Three Australian States., *Journal of Drug Issues*, 1986, 16, pg. 183-198.
12. Smith, D. I., Effect on Juvenile Crime and Traffic Accidents of Lowering the Drinking Age from 20 to 18 years in Tasmania. Unpublished report, WA Alcohol and

- Drug Authority, 1987.
13. Smith, D. I., and Burvill, P. W., Effect on Juvenile Crime of Lowering the Drinking Age in Three Australian States, *British Journal of Addiction*, 1987, 82, pg. 181-188.
  14. Vingilis, E., and Smart, R. G., Effects of Raising the Legal Drinking Age in Ontario, *British Journal of Addiction*, 1981, 76, pg. 412-424.
  15. Smith, D. I., Effect on Non-Traffic Accident Hospital Admissions on Lowering the Drinking Age in Two Australian States, *Contemporary Drug Problems*, 1986, 13, pg. 621-639.
  16. Smith, D. I., Alcohol and Crime. The Problem in Australia. Law, Treatment and Control. In: Bluglass, R., and Bowden, P., (eds.). *Textbook of Forensic Psychiatry*, London: Churchill Livingstone, in press.
  17. Smith, D. I., *Australian Studies on the Effect of Increasing the Availability of Alcoholic Beverages*. Paper presented to the "Research Conference: Statistical Recording Systems of Alcohol Problems" held at Helsinki, Finland, September 1987, Organised by the Finnish Foundation for Alcohol Studies, in collaboration with the Regional Office for Europe of the World Health Organisation and the International Group for Comparative Alcohol Studies.
  18. Du Mouchel, W., Williams, A. F., and Zador, P., *Raising the Alcohol Purchase Age: Its Effects on Fatal Motor Vehicle Crashes in 26 States*. Insurance Institute for Highway Safety, Washington DC, 1985.
  19. Douglass, R. L., and Freedman, J. A., *Alcohol-Related Casualties and Alcohol Beverages Market-Response to Beverage Alcohol Availability Policies in Michigan*, Volume 1. Ann Arbor, Michigan: Highway Safety Research Institute, University of Michigan, 1977.
  20. Wagenaar, A. C., Preventing Highway Crashes by Raising the Legal Minimum Age for Drinking: The Michigan Experience 6 Years Later. *Journal of Safety Research*: 1986, 17, pg. 101-109.
  21. Williams, T. P., and Lillis, R. P., Long-Term Changes in Reported Alcohol Purchasing and Consumption Following an Increase in New York State's Purchase Age to 19. *British Journal of Addiction*, 1988, 83, pg. 209-217.



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