

Rural Health Information Paper No: 4

“Drugs and Alcohol in Rural Australia”

August 1998

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Rural Health Information Paper No. 4

**“Drugs and
Alcohol in Rural
Australia”**

August 1998

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Enquiries: NRHA (Publications)
 PO Box 280
 DEAKIN WEST ACT 2600
 Telephone: (02) 6285 4660

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Contents

Introduction	iv
Executive Summary	1
Young men are most at risk	1
Unintentional injury and alcohol	1
Polydrug use	2
Indigenous health	2
Transport injuries	2
Risk taking	2
Strategies	2
The Rural, Remote and Metropolitan Areas (RRMA) Classification	4
Overview	5
Alcohol, Transport Injuries and Young Men	9
Marijuana and Transport Injuries	12
Polydrug Use and Transport Injuries	14
Injuries at Work	15
The Goal: Harm Minimisation	20
‘Tough on Drugs’	23
Strategies for Action	24
Bibliography	25
Acknowledgments	27
NRHA Publications	28

Introduction

The National Rural Health Alliance is the peak non-government body involved in action to improve the health of people living and working in rural and remote Australia. It has nineteen Member Bodies, each of which is a national organisation in its own right. They represent the consumers of rural and remote health services and most of the professions involved directly with health services in country areas.

One of the aims of the Alliance's work is to increase the profile of issues that matter in rural and remote health, and the level of discussion and understanding about them.

There is widespread understanding of the high rate of accident and injury among young males in rural areas. Each year in Australia 1,600 young males die and more than 60,000 are hospitalised as a result of injury.

It is also clear that there is a substantial level of drug use among this part of the population. The role of alcohol is fairly well understood, although still very difficult to manage. The role of drugs other than alcohol is less clear but is becoming a more significant issue.

This Paper discusses the relationship between accidents and the use of a mixture of drugs, both legal and illicit. In the context of the situation in which overall road trauma has declined by 48% since 1989, it is a matter of major concern that young males in rural areas seem to be running against the trend.

These important issues are the subjects of this Paper.

John Lawrence
Chairperson, NRHA

Drugs and Alcohol in Rural Australia - Developing Policy Proposals for Young Men, Lifestyles and Prevention of Harm

Executive Summary

Living and working in the country, especially the most remote parts of Australia, is a health hazard. The air may be cleaner than in the cities, the roads emptier, the noise levels lower, but the living is hazardous, especially for young men.

This Paper will argue that health authorities need to put into their list of high priorities the health of young men who live in rural and remote areas. A particular issue for this group is the prevention of injury and the link between drug and alcohol use and injury, related both to transport and to work.

Young men are most at risk

Of all Australia's population, young men between 15 and 29 are most at risk of injury. Each year in Australia 1,600 young males die and more than 60,000 are hospitalised as a result of injury. In 1993 45% of all deaths in this age group were the result of unintentional injury. By far the highest group of young men who died this way were in 'remote areas', followed by those in 'remote centres', and so progressively down to those living in cities. In other words, the lower the population density, the higher is the risk of injury. For all males the injury death rates in large 'rural centres' and 'remote centres' were respectively 22% and 69% higher than in capital cities.¹

Unintentional injury and alcohol

The death rates for men dying from road traffic accidents in 'other rural areas' and 'remote centres' are respectively 108% and 154% higher than in capital cities.

Alcohol plays a significant role in many of the injuries. In 1992 alcohol misuse was implicated in 37% of all road injuries, 34% of falls, 44% of fire injuries, 34% of drownings and 7% of machine injuries. Information from the Australian Institute of Health and Welfare (AIHW) shows that men in large rural areas, remote centres and other remote areas have a greater incidence of high alcohol consumption than men in the nation's capitals.

¹ See page 4 for details of the classification of these areas.

Polydrug use

The role of drugs other than alcohol is not as clear, but polydrug use (the use of a mixture of drugs, both legal and illicit) is increasing in Australia. Drugs other than alcohol were detected in 22% of all driver fatalities in a recent study. The use of marijuana is increasing, and is especially prevalent among young men. Its role in accidents and injury is not certain, but when mixed with alcohol it can certainly impair judgment and reflex time, and some research says it can affect the driver to such an extent that the two together are a dangerous cocktail.

Indigenous health

The state of indigenous men's health should also be examined in this context: of all the people in Australia, their health status is the worst. The life expectancy of the average Australian male is in the mid-seventies - for an indigenous man it is 55.

Transport injuries

Nearly 50% of all road crashes occur on rural open roads and a further 14% of fatal crashes occur in rural towns, and the majority of victims are rural people. A 1996 report from the National Health and Medical Research Council (NHMRC) on unintentional injury said "transportation (predominantly motor vehicles) is the single largest cause of injury in young males both in terms of fatalities and hospital admission".

Transport injury rates for young men are so much higher in rural and remote areas than they are in the cities because of a combination of factors including exposure to travel, patterns of alcohol use, conditions of motor vehicle, seat belt use and access to emergency medical services.

Risk taking

Alcohol is not the only factor in injury. The risk taking behaviour of many young men obviously has a significant effect on their driving - they may want to race other cars, overtake them on blind corners and drive too fast, because of seeking thrills. Sensation seeking and aggression have been found to be the main reasons adolescent men drive recklessly.

Strategies

However, although the picture may look bleak, all is not bad news. Rural road trauma has declined by 48% since 1989, and in 1990 rural Australians, especially young males, had improved their attitude to risk taking, seat belt use and low alcohol beer.

The overwhelming evidence when looking at strategies to reduce harm is that community-based local strategies that involve youth themselves are the most effective. What is interesting is that little seems to have been done in this way to prevent drink driving.

Novel approaches need to be developed that avoid taking the responsibility off young drivers; instead young people should be offered ownership and involvement in the learning process. Rather than forcing change onto young people, this approach would encourage voluntary compliance.

It is to be hoped that communities in rural Australia will access some of the \$4.8 million for community grant programs for local drug prevention and education projects announced in 1997 under the 'Tough on Drugs' banner. Some of the emphasis in those programs should be on education and prevention for rural youth to address the issue of polydrug use, including the cocktail of marijuana and alcohol. Research has found that such a cocktail can lead to accident and injury, and sporting clubs are suggested as one venue for such strategies.

THE RURAL, REMOTE AND METROPOLITAN AREAS (RRMA) CLASSIFICATION

Much of the analysis in this report is based on the 1994 Rural, Remote and Metropolitan Areas (RRMA) Classification. This divides the nation as follows:

State or Territory

Metropolitan Areas

- Capital city
- Other metropolitan centre (population of 100,000 or more)

Non-metropolitan Zones

- Rural Zone
 - Large rural centre (population 25,000-99,999)
 - Small rural centre (population 10,000-24,999)
 - Other rural area (population less than 10,000)
- Remote Zone
 - Remote centre (population of 5,000 or more)
 - Other remote area (population less than 5,000)

Drugs and Alcohol in Rural Australia

Developing Policy Proposals for Young Men, Lifestyles and Prevention of Harm

OVERVIEW

Living and working in the country, especially the most remote parts of Australia, is a health hazard. The air may be cleaner than in the cities, the roads emptier, the noise levels lower, but the living is hazardous, especially for young men.

This Paper discusses the issues around injury, alcohol and drugs as they affect young men. While young women are also at risk, especially from abuse of drugs and alcohol, their level of injury is much lower.

In 1991 around 30% of all Australians lived in non-metropolitan areas². The demographics of the rural and remote population are different from that of the cities.

For example, there are proportionally few young adults in rural and remote areas. A significant number of the rural and remote population are indigenous (19% on average) although the percentage varies from 55% in the Northern Territory to 1.3% in Victoria.

Of all Australia's population, young men between 15 and 29 are most at risk of injury. Each year in Australia 1,600 young males die and more than 60,000 are hospitalised as a result of injury.³ In 1993 45% of all deaths in this age group were the result of unintentional injury. By far the highest group of young men who died this way were in 'remote areas', followed by those in 'remote centres', and so progressively down to those living in cities. In other words, the lower the population density, the higher is the risk of injury (see table 1).

For all males the injury death rates in large 'rural centres' and 'remote centres' were respectively 22% and 69% higher than in capital cities⁴ (see table 2).

For any strategy to have credibility with young people, it should advocate positive actions... Messages based on abstinence are likely to be ineffective.

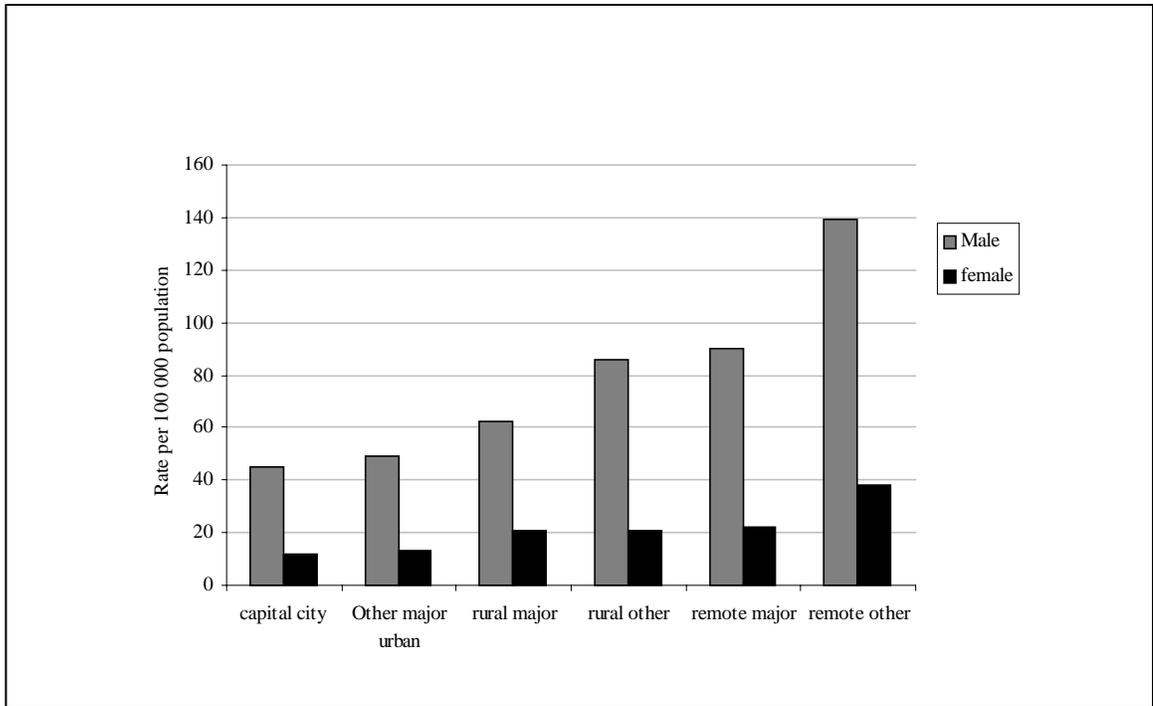
² Fragar, LJ et al (1997) *A Picture of Health? A Preliminary Report of the Health of Country Australians*, The Australian Agricultural Health Unit.

³ NHMRC (1996) *Unintentional injury in young males 15-29*, Commonwealth of Australia, 1996.

⁴ Titulaer, Trickett and, Bhatia (1998) "The health of Australians living in the rural and remote areas: preliminary results", *Rural Public Health in Australia 1997*, NRHA Canberra.

Table 1
Average annual unintentional injury deaths rates by RaRA category-
young males 15-29 years, Australia 1990 - 1992.

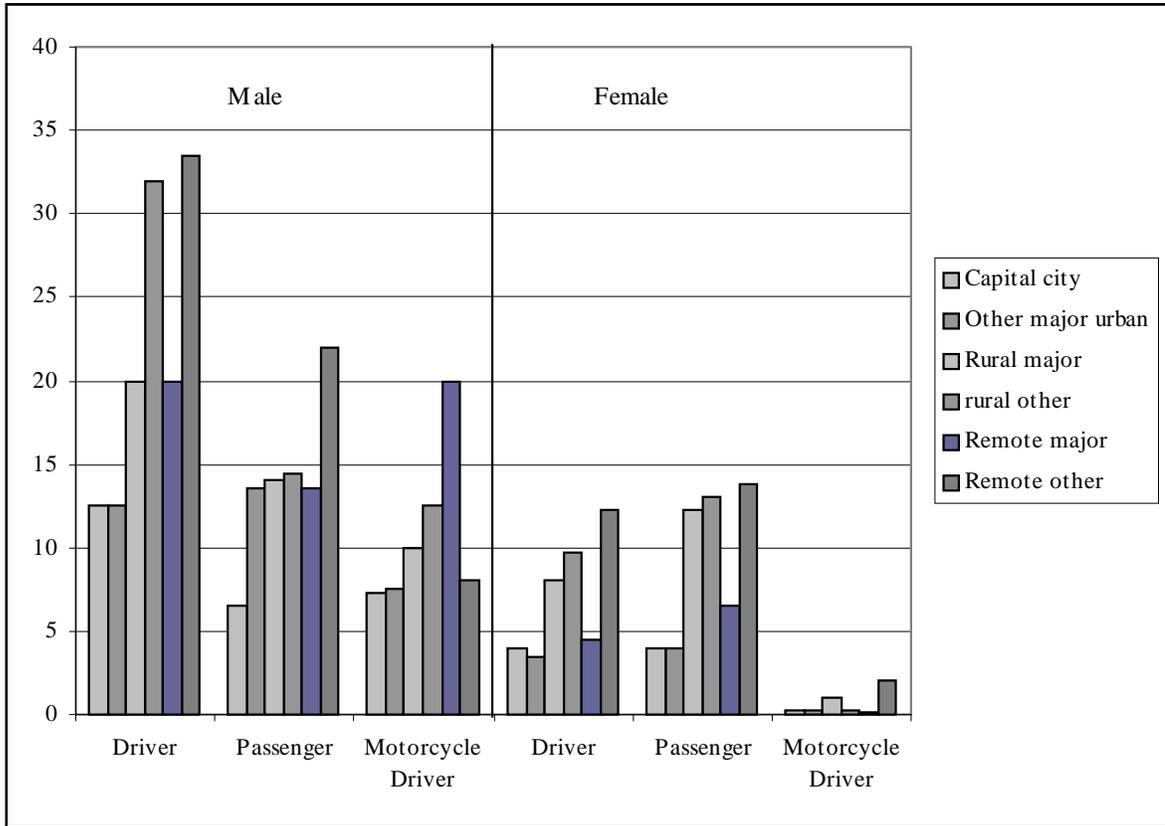
Source: NHMRC (1996), *Unintentional Injury in Young Males 15-29*, Commonwealth of Australia, 1996.



Note: the RaRA categories were from an earlier version of the RRMA classification.

Table 2
Death rates among 15 - 29 year olds for selected road user types by gender and areas of usual residence.

Source: NHMRC (1996), *Unintentional Injury in Young Males 15-29*, Commonwealth of Australia, 1996.



The death rates for men from road traffic accidents in ‘other rural areas’ and ‘remote centres’ are respectively 108% and 154% higher than in capital cities.⁵

The Australian Institute of Health and Welfare Injury (AIHW), in its paper on the health of Australians living in rural and remote areas, says “Injury, in particular transport related accidents, impacts disproportionately on men’s health.”⁶

Alcohol plays a significant role in many of the injuries to men. In 1992 alcohol misuse was implicated in 37% of all road injuries, 34% of falls, 44% of fire injuries, 34% of drownings and 7% of machine injuries.⁷ The AIHW reports that men in large rural centres, remote centres and other remote areas have a greater level of high alcohol consumption than men in the nation’s capitals.⁸ In remote centres the level is 3 percentage points higher than the national average (8.3% compared to 5.1%).

The role of other drugs is not as clear, but polydrug use is increasing in Australia. The use of marijuana is increasing, and is especially prevalent among young men. Its role in accidents and injury is not certain, but when mixed with alcohol it can certainly impair judgment and reflex time. Pharmaceutical drugs are also a significant cause of injury and poisoning, although women are more likely to be injured this way than men.

Alcohol and other drugs may well be a very risky cocktail for drivers on country roads.

The issue of men’s health in rural Australia was raised forcefully at the National Rural Health Forum in October 1997 by a number of speakers, including Allan Huggins of Curtin Institute of Technology,⁹ who maintained that men’s health, especially rural men’s health, was the “forgotten issue” in health care. Huggins quoted an American study which looked at male to female life expectancy ratios in 161 countries and found evidence that alcohol misuse accounted for an appreciable amount of male life years lost.¹⁰

The state of indigenous men’s health should also be examined in this context: of all the people in Australia, their health status is the worst. The life expectancy of the average Australian male is in the mid-seventies - for an indigenous man it is 55.¹¹

The issue of indigenous health is already one of high priority for organisations concerned with health in rural and remote areas. The health of young men, both indigenous and

⁵ *ibid*

⁶ *ibid*

⁷ Alcohol and other Drugs Council of Australia (ADCA) (1996), *Unintentional Injury among Young Males 15-29*, Submission to the NHMRC.

⁸ See footnote 3.

⁹ Huggins Alan, (1997), School of Public Health, Curtin University of Technology, WA, “Men’s health in Rural Australia: Death, Injury and Illness by Socialisation and Location”, National Rural Public Health Forum 1997, *Forum Papers Book*, NRHA.

¹⁰ Templar, Griffin and Hinze (1993) (no more details).

¹¹ Huggins Alan, (1997).

non-indigenous, also needs to be a high priority. For that group there should be some focus on the prevention of injury and the link between drug and alcohol use and injury, related both to transport and to work.

Rural communities around Australia should apply for Federal Government 'Tough on Drugs' money announced in 1997 for the treatment and prevention of problems related to drugs and alcohol.

ALCOHOL, TRANSPORT INJURIES AND YOUNG MEN

Nearly 50% of all road crashes occur on rural open roads. In 1996, 950 people lost their lives on rural roads. A further 14% of fatal crashes occurred in rural towns. Two out of three fatalities on rural roads are rural people, while recent data show that more than half of those killed were within five kilometres of home.¹²

A 1996 NHMRC report on unintentional injury said, "transportation (predominantly motor vehicles) is the single largest cause of injury in young males both in terms of fatalities and hospital admission." 15 to 19 year olds have the highest rate of hospital admission due to transport-related injury, although 20 to 24 year olds are the group with the highest case fatality ratio.

Why are transport injury rates for young men so much higher in rural and remote areas than they are in the cities? Again the NHMRC report claims it is almost certainly due to a combination of factors including exposure to travel, patterns of alcohol use, conditions of motor vehicle, seat belt use and access to emergency medical services. It may also be due to less deterrents in the form of lower levels of policing on country roads to check on speeding and drink driving.

A NSW study¹³ shows that alcohol was a significant factor in 22% of fatal accidents and at least 52% of fatal accidents on Thursday, Friday and Saturday nights. Alcohol significantly affects driving performance even at relatively low blood alcohol concentrations, and significant impairment can be detected in blood alcohol concentrations as low as 20mg/100ml (.02). (In most Australian States the legal limit for driving is set at 50mg/100ml, otherwise known as .05)¹⁴

¹² O'Leary, Dennis (1997), Federal Office of Road Safety, "Road Trauma in Rural Australia", National Rural Public Health Forum, *Forum Papers Book*, NRHA.

¹³ Antill, Dr John (1990), "Drinking and Driving: the attitudes, knowledge and intended behaviour of adolescents", *Road Safety and Traffic Management Directorate*.

¹⁴ Binns, Colin W et al (1987), *Taking Risks: the Drinking and Driving Practices of 17-30 year old Males*, NCRPDA, Curtin University of Technology, WA.

One study in Australia found that young drivers are no more likely than older drivers to drive with an illegal blood alcohol level. However, what has been found is that younger drivers are more likely to be injured or killed as a result of impaired driving.¹⁵

One of the single most significant factors in the reduction of road traffic accidents in the cities has been the combination of drink driving education campaigns (for example - *If you Drink and Drive You're a Bloody Idiot*) and 'booze buses' at major intersections to conduct roadside breathalysers on drivers. Indeed the preventive effect of the very public police presence is considered to be a major factor in the reduction. A study into drinking and driving practices of young men found that when roadside breath testing of drivers was below 25% of the driver population, then it was not an effective deterrent. In Victoria and NSW the State governments have ensured that the 'booze buses' are as big and flashy as possible, with numerous lights around them just to reinforce their presence, and with large numbers of cars being pulled over. In NSW the police ensure they block off an important arterial road, with chase cars organised to take off after drivers who would like to avoid being breathalysed. Such police visibility has been shown to reduce accident rates, but the resources involved mean that it is only cost effective in cities and large regional centres, not on empty country roads.¹⁶

Part of the success of such strategies (though not all) has been due to some cultural change among young men in cities in relation to their attitude to drinking and driving. Focus groups conducted by the Commonwealth Department of Health and Family Services in 1996 in preparation for the 'Alcohol Go Easy Campaign' into attitudes of young people towards drinking and driving found strong peer approval for not drinking and driving.

However, there is some evidence to show that this is not the case in rural and remote areas. A study into the attitude of adolescents to drinking and driving found that people who drink and drive were seen as most irresponsible by city girls in private/Catholic schools, and least irresponsible by country boys in government schools.¹⁷ This was also the group that drank most heavily. They were also more likely to drive with someone who was a drink driver.

It appears that many rural men adhere strongly to the traditional male role of breadwinner, and to masculinity, and this may feed into the stereotypical role of risk-taker, hard drinker, hard worker. A paper given at the National Rural Public Health Forum reported that 53% of rural men interviewed said they had driven while over the limit, and 70% had speeded up to 19km over the speed limit.¹⁸

Many men may drink to relieve stress - for example stress from working long hours, from isolation, or as a result of anxiety about income. For example, the average debt per farming

¹⁵ Elliott and Shanahan (1995), *A review of Risk Behaviours among 15-24 year olds*, Commonwealth Department of Human Services and Health.

¹⁶ *ibid*

¹⁷ Antill, Dr. John (1990), "Drinking and Driving: the attitudes, knowledge and intended behaviour of adolescents", *Road Safety and Traffic Management Directorate*.

¹⁸ *ibid*

family in South Australia is \$350,000, and the unemployment rate among youth is high. While 50% of farmers in 1992 were operating at a profit, the other 50% were living on less than \$120 a week.¹⁹

While some pubs and clubs in the country have introduced responsible servicing practices, such programs tend to be resource-intensive and need the co-operation of police and licensing organisations. The link between sport and drinking also tends to be strong, with many sporting clubs being the venue for heavy drinking sessions after the game, which tends to counteract the health benefits of playing sport. Lawson and Evans (1992) found that rugby league footballers in Australia (16-30 years) exhibit 'prodigious' alcohol consumption - as much as 12-24 schooners a session. The young men regard this excessive drinking as part of the tradition of mateship inherent in the game.²⁰

A paper yet to be published by Curtin Institute of Technology on drinking practices in the Pilbara has found a link between heavy drinking on Friday night, the playing of sport the next day and the sustaining of injury. Sports injuries may then be compounded by even more serious accidents at work.²¹

The Australian Drug Foundation, a non-government organisation in Melbourne, has developed a partnership with Hawthorn Football Club and some corporate partners to try to tackle this issue in a regional area of Victoria, and to assist community sports bodies to become active partners in health promotion by advancing responsible alcohol policies and practices. They have based their endeavours on a successful project they piloted called the *Sporting Clubs Alcohol Project*.

Alcohol is not the only factor in injury. The risk-taking behaviour of many young men obviously has a significant effect on their driving - they may want to race other cars, overtake them on blind corners and drive too fast, because of seeking thrills. An American study which asked adolescents to keep driving logs found that when their parents were in the car they drove much more slowly and were less likely to exceed the speed limit. This will come as no surprise to any parents, but sitting in the back of your son's car at all times is hardly an effective accident prevention strategy!²² It also found that sensation-seeking and aggression were the main reasons adolescent men drove recklessly.

However, although the picture may look bleak, all is not bad news. The Federal Office of Road Safety reports that rural road trauma has declined by 48% since 1989, and that market research they conducted in 1990 amongst rural Australians, especially young males, found that attitudes had changed significantly. "The attitude to seat belt use had improved

¹⁹ O'Hehir et al (1997), "Healthy Lifestyles: are rural men getting the message?" in National Rural Public Health Forum, *Forum Papers Book*, NRHA.

²⁰ Elliott and Shanahan (1995), *A review of Risk Behaviours among 15-24 year olds*, Commonwealth Department of Human Services and Health.

²¹ Huggins, Alan, personal communication.

²² Arnett, Jeffrey, Jensen et al (1997), "Reckless driving in adolescence: state and trait factors", *Accidents, Analysis and Prevention Vol 29, No 1*.

significantly, fatigue is now seen as a major problem and low alcohol beer was more acceptable as a strategy to avoid drink driving over the limit. However, attitudes to speeding were still poor and had barely modified over the years.”²³ In other words, education campaigns and interventions had had some impact, which is encouraging for those who want to continue the work.

MARIJUANA AND TRANSPORT INJURIES

Cannabis is a popular drug among young men in particular. When surveyed in 1995 by the National Household Survey²⁴, 28% of those between 14 and 19 and 27% of men between 20 and 34 had recently used marijuana. Reported use dropped to only 5% for those over 35, and the rate of use by women was very low in comparison. But should we be concerned about its role in the injury of young men?

An Australian policeman working in the drug area used to tell a story of a young motorist who was flagged down by the police late one night in a 60km zone. The policeman leaned in through the window:

“How fast do you think you were going son?”

“About 70?”

“No,” with a shake of the head.

“About 80?”

“No mate - no way.”

In a faltering voice ... *“about 90?”*

“Son - you were doing 25 km an hour. Have you been smoking marijuana?”.....

While the smoking or eating of cannabis can impair psychomotor performance for the purpose of operating a motor vehicle, it seems to have a minimal role in causing accidents. The smoking or ingestion of cannabis does indeed cause perceptual, cognitive, affective and behavioural changes. However, a Norwegian survey which looked at blood samples of drivers who were suspected of being on drugs and had been stopped by the police and then tested for impairment found that impairment due to tetrahydrocannabinol (THC-the active ingredient in cannabis) on its own was rare. An Australian study by Chesher found that drivers who had used marijuana became much more cautious, especially in relation to overtaking.²⁵ A comprehensive Australian study on the health and psychological consequences of cannabis use²⁶ found that “the effects of cannabis use on road driving have

²³ O’Leary, Dennis (1997), Federal Office of Road Safety, “Road Trauma in Rural Australia”, National Rural Public Health Forum, *Forum Papers Book*, NRHA.

²⁴ “National Drug Strategy Household Survey 1995”, Department of Health and Family Services.

²⁵ Chesher, Gregory B (1986), University of Sydney, “The effects of Alcohol and Marijuana in Combination: a Review”, *Alcohol, drugs and Driving Vol. 2 Numbers 3-4*.

²⁶ Hall, Wayne et al (1994), *The Health and Psychological Consequences of Cannabis Use*, Monograph 25, National Drug Strategy, AGPS.

been smaller than the comparable effects of intoxicating doses of alcohol in the same settings”.

When there is impairment it is usually due to THC and other drugs in combination. Of the people with THC in their blood, 82% also had amphetamine, benzodiazepines or opiates in their blood. Diazepam, a sedative, was the most common drug found. Greg Chesher concluded that the impairment was most likely due to the other drugs, not the cannabis.²⁷ An Australian study found that casual cannabis use may not increase the risk of an accident by itself, even though the driver may appear to be impaired.²⁸

An earlier look at the issue found that when alcohol and cannabis are combined, the effect of the alcohol takes over, and drivers tend to take more risks than they would on marijuana alone. It is also likely that people taking the drugs in combination are less likely to be able to assess their intoxication and their impairment than those who have only drunk alcohol.²⁹

Alcohol and other drugs may well be a very risky cocktail for drivers on country roads.

Little education work has been done on the risks of combining marijuana and alcohol, and driving. The Melbourne Herald Sun reported in September 1997 that:

Fifty-three per cent of drivers killed on Victorian roads last year showed the presence of alcohol or other drugs, including marijuana. The presence of drugs other than alcohol - mainly cannabis - has been rising dramatically in recent years, according to Victoria's parliamentary road safety committee chairman, John Richardson. He said 38 per cent of drivers killed last year showed a presence of drugs other than alcohol, compared with 20 per cent in 1993. Mr Richardson was quoting studies by the Victorian Institute of Forensic Medicine.

The Courier Mail reported in October that:

*A study by Professor Ian McAllister of the Australian National University Research School of Social Sciences shows that 41 per cent of 14 to 19-year-olds use marijuana. The figure, for 1995, is a 9 per cent jump on teenage use of cannabis a decade earlier. It compares with usage in the general population which has stabilised at about 30 per cent. Professor McAllister conducted interviews with about 3800 Australians aged 14 and over. The most common place to use cannabis was at a friend's house or parties, but 29 per cent of students indicated they also smoked at home. **Fifty per cent of adolescents not***

²⁷ Hallvard, Gjerde et al (1991), National Institute of Forensic Toxicology, Oslo Norway, "Impairment in Drivers due to cannabis in combination with other drugs", *Forensic Science International* 50.

²⁸ Drummer, Professor Olaf H (1994), *Drugs in Drivers killed in Australian Road Traffic Accidents*, Victorian Institute of Forensic Medicine, Monash University.

at school reported they commonly used cannabis in a vehicle. (emphasis added)

A recent monograph on the long-term use of cannabis, published by the National Drug and Alcohol Research Centre (NDARC) in Sydney, argued that more research needs to be done on this issue. Also:

“it is clear that psychomotor impairment produced by alcohol and cannabis is independent and additive. This suggests that persons who drive after using both drugs are likely to be more impaired, and probably at increased risk of motor vehicle accidents.”³⁰

For any strategy to have credibility with young people, it should advocate positive actions that can be adopted to avoid drink/dope driving, or driving with a drink/doped driver. Messages based on abstinence are likely to be ineffective, and the recruitment of young people would be harder. An effective strategy should aim at making drink/doped driving socially unacceptable, and aim to inform and empower individuals to be responsible for their own actions.

POLYDRUG USE AND TRANSPORT INJURIES

Polydrug use (the use of cocktails or combinations of drugs) appears to be on the increase.³¹ The National Drug Strategy Household Survey found that alcohol is used concurrently by nearly all users of amphetamine and cocaine (admittedly only a small percentage of the population) and by more than half the users of marijuana, barbiturates, inhalants, heroin, hallucinogens and ecstasy/designer drugs.³²

When the Victorian Institute of Forensic Pathology surveyed accidents that occurred in Victoria, NSW and WA,³³ drivers in whose blood more than one drug was detected were invariably found to be responsible for the accident. Drugs other than alcohol were detected in 22% of all driver fatalities. Alcohol was detected in 36%. The most common drugs were cannabis (11%), stimulants (3.7%), benzodiazepines (3.1%) and opiates (2.7%). Drivers using benzodiazepines related to Valium showed a trend to a higher risk, as did drivers using stimulants related to ephedrine and the amphetamines.

Nonetheless the study found that the relative risk (see table 3) of being a driver who causes an accident was much higher for those drivers who used alcohol either on its own or in

³⁰ Didcott, Reilly, Swift and Hall (1997), *Long term cannabis users on the New South Wales North Coast*, NDARC, University of New South Wales.

³¹ Patton, George C (1995), Department of Psychiatry, University of Melbourne. “Patterns of common drug use in teenagers”, *Australian Journal of Public Health* 1995, Vol 19, No 4.

³² “National Drug Strategy Household Survey 1995”, Department of Health and Family Services.

³³ Drummer, Professor Olaf H (1994), *Drugs in Drivers killed in Australian Road Traffic Accidents*, Victorian Institute of Forensic Medicine, Monash University.

combination with other drugs, than for those who just used drugs. For the last category, the relative risk was not much higher than for those who used neither alcohol nor other drugs.³⁴

This argument is counter to that run by the Australian Hotels Association (AHA), which has been lobbying for some years for motorists to be tested for drugs as well as alcohol. The AHA claims that alcohol is not the only substance at fault and that many accidents apparently caused by alcohol could in fact be due to other substances such as marijuana. It appears from these studies that the consumption of alcohol, even when combined with other drugs, is still the most significant factor in many road accidents, and that the combination, rather than the drug on its own, is a higher risk factor.

INJURIES AT WORK

Farming is one of the riskiest occupations in terms of injury rates both in Australia and overseas. Overseas studies have shown that young workers in agriculture are being injured more frequently than in other industries. The most common injury was to the hand, most injuries occurred in work-related activities, and the most common agent of injury was the farm motorbike.³⁵

The relationship between drug use and injury in the workplace is almost certainly strong, but it is hard to find evidence of it affecting farm workers as such, as compared to workers generally. Much work has been done in occupational health and safety about the risks of drug use and the effect it has on workers, especially in manual labour, but because farms are such isolated and unregulated areas of work, the figures on this for agriculture are hard to find and hard to research. A survey of farmers in Northern NSW listed farm hazards as ranked by the respondents (see table 4). Number 1 was going broke, but almost all the others were injuries. Interestingly, motorbike accidents, the main cause of injury in young men on farms (see table 5), were seen as low on the list of hazards.³⁶

The NHMRC study on injury in young men says the high rate of farm injury is most likely caused by the combination of conditions: the diversity of work involved, the reliance on heavy machinery, the involvement with animals, a lack of training, isolation, and the combination of work and leisure environments. Youth may be more at risk because of the high risk work they do in relation to their age. Many farms also place a low priority on safety measures, or may not be able to afford to put them in place. Most of the injuries occurred during activities related to work.³⁷

³⁴ *ibid*

³⁵ NHMRC (1996), *Unintentional Injury in Young Males 15-29*, Commonwealth of Australia, 1996.

³⁶ Sandall et al (1997), Rural Development Centre, University of New England, "Farmers' perceptions of psychological stress: implications for matching policy and programs to farmers' needs", National Rural Public Health Forum, *Forum Papers Book*.

³⁷ NHMRC (1996), *Unintentional injury in young males 15-29*, Commonwealth of Australia, 1996.

Table 3
Relative risk and confidence intervals of 1045 drivers in Victoria, NSW and WA
involved in all vehicle accidents.

Source: Drummer, Professor Olaf H (1994), *Drugs in Drivers Killed in Australian Road Traffic Accidents*, Victorian Institute of Forensic Medicine, Monash University.

Drug Group	No.	Ratio[#]	Relative Risk[¶]	95% CI[¶]
drug-free	532	2.4	1.0	
alcohol only ^δ	278	14	6.0*	3.5-10
alcohol and drugs	97	22	9.0*	3.2-25
drugs only	138	3.3	1.4	0.85-2.1
all cannabis	112	4.0	1.6	0.96-2.8
cannabis and alcohol	63	18	5.6*	2.0-16
cannabis only ^δ	43	1.5	0.6	0.31-1.2
all stimulants	39	6.6	2.7*	1.0-7.1
stimulants and alcohol	10	∞	8.7	0.50-149
stimulants only ^δ	21	4.0	1.6	0.54-5.0
all opiates	28	12	5.0*	1.2-21
opiates and alcohol	4	∞	2.9	0.15-56
opiates only ^δ	13	5.5	2.3	0.50-10
all benzodiazepines	32	14	5.8*	1.4-25
benzos and alcohol	11	∞	9.5*	0.56-163
benzos only ^δ	11	4.5	1.9	0.4-8.7
all miscellaneous drugs	59	4.5	4.0*	1.5-10
miscellaneous and alcohol	11	∞	8.7	0.50-149

^δ no other psychoactive drug

[#] ratio of incidence in culpable and not culpable groups

[¶] relative risk obtained from Odd's ratio (Woolf's approx), Fisher's Exact test

* p<0.05, Fisher's Exact test compared to drug free group

Table 4
Farm Hazards ranked by respondents (farmers)

Source: Sandall et al (1997), Rural Development Centre, University of New England, "Farmers' perceptions of psychological stress: implications for matching policy and programs to farmer's needs", National Rural Public Health Forum, *Forum Papers Book*, NRHA, Canberra.

Farm hazards ranked by respondents

1	going broke
2	chemicals affecting your health
3	psychological stress
4	back injuries from shearing
5	contact with overhead power lines
6	injuries from using farm machinery and equipment
7	tractor accidents
8	accidents involving employees
9	back injuries from lifting heavy or bulky things
19	being hurt when using chainsaws and other motorised tools
11	shooting accidents
12	natural disasters
13	back injuries from farm vehicles
14	things that can go wrong in the farm workshop
15	accidents on rural roads
16	back injuries from handling animals
17	being injured when handling animals
18	motorbike accidents
19	hearing loss from shooting
20	horses and accidents
21	minor cuts, bruises and sprains

Table 5
Emergency Department presentations for farm related injuries, major agents of injury in 15 - 24 year old males.

Source: NHMRC (1996), *Unintentional Injury in Young Males 15-29*, Commonwealth of Australia, 1996.

Motor cycle	Farm vehicle	Tractor	Horse	Cattle	Other agent
18%	8%	8%	5%	4%	57%

Worksafe Australia estimated in 1993 that there were 170,000 work-related injuries requiring more than five days off work each year. The proportion that are related to alcohol and other drugs is unclear, but overseas studies estimate that 4-11% of workers who suffer a fatal injury at work do so because of alcohol use. An NHMRC paper³⁸ on workplace injury and alcohol published in 1997 concluded that between 3% and 10% of traumatic work injuries in Australia are related to alcohol use. It was scathing about other reports which claimed the link was much higher (for example WHO) and said they were assertions rather than the result of research.

Alcohol can impair performance by:

- slowing reaction time;
- damaging motor performance and loss of motivation;
- adversely affecting vision;
- causing absenteeism and increased morbidity;
- leading to loss of concentration, hearing and memory; and
- reducing intellectual performance.³⁹

³⁸ NHMRC (1997), *Workplace Injury and Alcohol* (draft).

³⁹ Allsop, Steve (1991), *Alcohol and other Drugs in the Workplace*, The Chamber of Mines and Energy.

An American paper discusses how airline pilots are required not to drink for 24 hours before going on flying duty, and quotes other research which shows that professional pilots can show ‘performance relevance deficits’ in their reactions even 34 hours after ingesting alcohol.⁴⁰ The effect of alcohol consumption on performance the next day is hugely underrated by the Australian population. Wolkenberg⁴¹ et al demonstrated in a laboratory the delayed effect of drinking alcohol (acute alcohol intoxication) on job performance. They showed that eye-hand coordination, reaction time and other motor sensory functions were found to be impaired on the morning and afternoon following the previous evening’s ingestion of alcohol.

Safety control, as pointed out in the above study, “relies upon the ability of workers to predict how their own bodies, and those of their fellows, will respond in given situations. Take away that predictability and potentially hazardous situations arise.”

A study in North Carolina⁴², a largely rural State, found that alcohol was strongly featured in deaths related to trauma and that, especially in rural areas, there was an association for all types of injuries. However, as in other studies, the figures show that alcohol was less significant in work-related injury than in other forms of injury such as gunshot wounds, burns and suicides. Suicide will not be examined in this Paper as much has been written about the link between alcohol and suicide, and because this Paper focuses on unintentional injury. However, any prevention strategy targeting a reduction in alcohol consumption may also have a beneficial effect on those contemplating suicide.

There is a view widely held by the general population that problem drugs in the workplace are illicit drugs such as heroin and amphetamines, rather than alcohol. This is mainly due to the large amount of attention illicit drugs receive in the media compared to alcohol. Amphetamines in particular have received attention because of the role they can play in extending the hours that some truckies feel they can drive. Nonetheless in comparison to alcohol⁴³ the number of people who have used illicit drugs recently is small⁴⁴ (0.4% for heroin, 2.1% for amphetamines, .8% for ecstasy, 13% for marijuana). This compares with 76% for alcohol.

As Steve Allsop pointed out in his paper for the WA Chamber of Mines and Energy:

“this aspect (alcohol) of substance use is one which does not appear to have been recognised by persons outside the health professions. This may well be because of generally held social beliefs that alcohol is not a drug; drinking alcohol is not only socially acceptable behavior, on many occasions it is

⁴⁰ Shain, Martin (1981), “Alcohol, Drugs and Safety: an updated perspective on problems and their management in the workplace”, *Accident, Analysis and Prevention Vol 14 No 3 1982*.

⁴¹ *ibid*

⁴² Rutledge, Robert et al (1992), “The association of trauma, death and alcohol use in a rural state”, *The Journal of Trauma Vol 33 No5*.

⁴³ NHMRC (1997), *Workplace Injury and Alcohol* (draft).

⁴⁴ “National Drug Strategy Household Survey 1995”, Department of Health and Family Services.

*expected behaviour. It is not intended to suggest that other drugs such as marijuana, cocaine, amphetamines, heroin etc cannot pose problems in the workplace but merely to highlight the fact that any employee suffering problems related to substance use is more likely (by a factor of at least 10) to be suffering alcohol, rather than illicit drug use.*⁴⁵

The same report identified factors which could lead to drinking at risk levels, including shift and other work which hampers or removes the individual from normal social and family contact. This would include working long or unsociable hours, working away from home and working in isolated areas. It includes monotonous and stressful jobs, and jobs with a predominantly young male workforce such as mining (see table 6). Many of these factors are relevant not only for mining, but also for working in rural and remote areas generally.

Alcohol is not the only factor in injuries in the workplace. Inexperience plays an important role; in the workplace, the highest rate of injuries is found amongst those with the least experience, for example in the logging and coal mining industries. A survey of young farm workers in New South Wales found they identified inexperience, impatience, speeding, “mucking about” and peer influence, which all lead to bravado, lower levels of caution and the willingness and obligation to do risky jobs as factors involved in injury risk.⁴⁶

THE GOAL: HARM MINIMISATION

When looking at the links between alcohol and injury, it is easy to see why the prohibitionist movement started up in the United States. Of course, the prohibitionists were more concerned about the links between alcohol and violence, the effects on family income and the lack of ‘moral fibre’ of drinkers, than injury rates. Prohibition was a spectacular failure, but ever since then the health professions have been struggling with ways to convince people to drink less for the good of their health. The consumption of alcohol is such an integral part of our culture, and being drunk so much a right of passage of every young man, that warnings are easy to brush aside and ignore.

When Elliott and Shanahan conducted group discussions with adolescents in 1987 they found seven major influences on drinking:

- parent/family drinking behaviour;
- peer group behaviour and expectations;
- advertising and marketing of alcohol;
- law enforcement and drinking laws;

⁴⁵ Allsop, Steve (1991), *Alcohol and other Drugs in the Workplace*, The Chamber of Mines and Energy.

⁴⁶ Hartigan, CL (1994), *Farm injury in Australian adolescents and young adults: A focus group report*, Australian Agricultural Health Unit, Moree NSW.

Table 6
Percentage of Alcohol Consumption in Occupational Groups.

Source: Allsop, Steve (1991), "Alcohol and other Drugs in the Workplace", The Chamber of Mines and Energy.

Occupational Group	Drinkers %	Drinking 80g alcohol/day %	Mean consumption alcohol/drinker (g)
Professional, technical	80	15	25
Administrative, executive	88	27	32
Clerical	79	21	30
Sales	81	19	30
Farmers, fishermen, timbergetters	71	11	24
Miners, quarrymen	88	22	28
Transport, communications	78	19	31
Tradesmen, process workers, labourers	77	21	31
Service, sport, recreation	74	19	25

- the availability of alcohol;
- drinking venues; and
- education.⁴⁷

Nonetheless, we have learnt some important lessons over the years. It is widely accepted that a combination of structural and regulatory change and education is what is most effective, and that dire warnings on their own can be counterproductive. In other words, in moves to lower the rates of accidents caused by alcohol, the model of the introduction of the .05 limit with penalties, the roadside breathalyser tests along with education campaigns, does have a deterrent effect on drink drivers. But if one of the links is missing, then the deterrent is not as effective.

While young people (and older ones for that matter) are prepared to accept that alcohol is a likely cause of road accidents, they tend to think it will not affect them. A survey of 1512 Armidale high school students showed that while they had a good knowledge of general road safety issues, and knew that 16-25 year olds were most vulnerable to road accidents, their suggestions on how to improve this problem did not include any proposals on reducing alcohol levels. Instead they suggested improving road conditions, and having stricter penalties and better driving training.⁴⁸

If there is a strong link between alcohol consumption and injury amongst young men in rural and remote areas, what moves should be made to try to lower the injury rate? There are certainly existing programs to try to reduce injury (for example Farmsafe), not to mention programs dotted throughout the country targeting pubs and clubs in responsible serving, and drink driving. Much has been written about the subject, with probably one of the most useful overall studies done by Elliott and Shanahan, in their 1995 *Review of Risk Behaviours among 15-24 year olds*. As they say in their summary, “when designing injury prevention strategies the ultimate goal should be harm minimisation.”

When looking at strategies to reduce harm, the overwhelming evidence is that community-based local strategies that involve youth themselves are the most effective. What is interesting is that little seems to have been done in this way to prevent drink driving. Elliott and Shanahan said in their review only a few years ago that:

“the whole area of driver road safety was thought by some to be in its infancy; that is, it was perceived to be content limited and knowledge limited.”

⁴⁷ Quoted in Elliott and Shanahan (1995), *A review of Risk Behaviours among 15-24 year olds*, Commonwealth Dept of Human Services and Health.

⁴⁸ Antill, Dr John (1990), “Drinking and Driving: the attitudes, knowledge and intended behaviour of adolescents”, *Road Safety and Traffic Management Directorate*.

They went on to say:

“It was thought that novel approaches need to be developed that avoid taking the responsibility off young drivers, rather, that young people should be offered ownership and involvement in the learning process. So that instead of forcing change onto young people, this approach would encourage voluntary compliance.”

‘TOUGH ON DRUGS’

In November 1997 the Prime Minister launched the ‘Tough on Drugs’ campaign. The major emphasis of this program is on illicit drugs, rather than alcohol, but it is understood that there is some scope within the program for consideration of licit drugs as well. It is to be hoped that a significant proportion of the program’s resources will go to rural communities for work on reducing the harm from drugs and alcohol use by young people. If communities in rural Australia do access any of the \$4.8 million in the community grant program for local drug prevention and education projects, at least some of the emphasis should be on education and prevention around the cocktail of marijuana and alcohol. Research has established that this mixture can lead to accident and injury, especially among the young.

STRATEGIES FOR ACTION

Communities in rural Australia could consider the following strategies:

1. Regions could join together to seek funding to commission a rural health group to design a three-stage community-based harm minimisation model on the prevention of injury and road accidents as a result of drinking and smoking marijuana, or using other drugs in a mixture with alcohol. The provisional name could be '*Bush Life Savers*'. This model would target young men (although may well use young women in assisting in this task) and would be designed with the assistance of young people.
2. The model, with appropriate variations, could then be trialled in a number of communities. This would be stage 2. If successful, then stage 3 would be started: national adoption with a linked media campaign.
3. Regions could examine The Australian Drug Foundation's *Sporting Clubs Alcohol Project* as a model to assist community sports bodies to become active partners in health promotion by advancing responsible alcohol policies and practices.
4. Communities should be aware that for the suggested strategies to have credibility with young people, they should advocate positive actions that can be adopted to avoid drink/dope driving, or driving with a drink/doped driver. Messages based on abstinence are likely to be ineffective, and the recruitment of young people would be harder. It should aim at making drink/doped driving socially unacceptable, and aim to inform and empower individuals to be responsible for their own actions.
5. The relationship between other injury (such as in the workplace) and substance use could also be the target of a similar style of project for rural and remote areas.

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