

High price for our heavy drinking



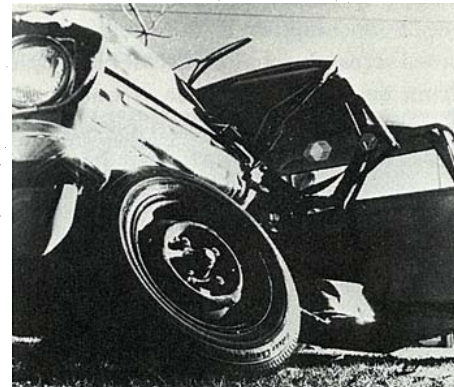
'That night the sailors asked for some rum to make merry with upon the women quitting the ships. Soon, as one observer put it, they began to be elevated, and all that night there were scenes of debauchery and riot, which beggared description.'

So heavy drinking is anything but new in Australia; rather, it could be said that it's a part of our way of life.

When it comes to alcohol consumption, Australia leads the English-speaking world. With an annual consumption rate equivalent to more than 10 litres of absolute alcohol per head (men, women, and children), we drink nearly 2 litres per head more than Canada, our nearest English-speaking rival. Even so, when both Western and Eastern Europe are included, Australians can claim only number 10 position — France leads with an annual consumption per head of the equivalent of about 17 litres.

This scene, described in Professor Manning Clarke's opus *A History of Australia*, occurred at Sydney Cove on February 6, 1788. The colony of New South Wales was just 12 days old.

In *The Australianization of John Bull* Joe Rich wrote: 'evidence shows that heavy drinking was a serious problem in the settlement's early days. One man claimed that as a boy in Hobart he had seen the whole colony drunk for several weeks, from the Governor downwards, and even in 1830 it was said that 'one-half of those who die in the colony in the present day perish, either directly or indirectly, through drunkenness'.



The connection between road crashes and drinking is irrefutable. According to the Commonwealth Department of Health, about half of the deaths from traffic accidents are attributable to alcohol.

Our alcohol consumption is still increasing. In the 10 years between 1965 and 1975, the amount of beer we drank each year per head of population rose by one-third (from 110 to 143 litres), the amount of wine more than doubled (from



5.5 to 12.5 litres), and that of spirits rose by about one-third (from 0.9 to 1.2 litres).

Four years ago we spent an estimated \$151 annually on alcoholic drinks for each man, woman, and child in the population — and the figure becomes \$226 for each person 18 years or older. That was about one-third of the amount spent on food, and nearly 6% of our total personal expenditure. More recent statistics have not yet been published, but the situation seems unlikely to have changed much.

High social cost

These, of course, are gross figures. Alcohol consumption is not evenly distributed across the community: some people drink heavily, others little or not at all. Segments of the community certainly do abuse this drug and the financial costs of this abuse on our services (regardless of the social costs) are very high.

Deaths attributable to alcohol in Australia

	%
tuberculosis	30
beri beri	100
alcoholic psychosis	100
alcoholism	100
cardiomyopathy	15
cirrhosis of the liver	50
diseases of the pancreas	15
motor vehicle traffic accidents	50
accidental alcohol poisoning	100
burns	10
accidental drowning	20
suicide	20
homicide	33

Deaths to which alcohol has contributed — as shown in the 1975–76 Annual Report of the Commonwealth Department of Health.

For example, a recent report of the Commonwealth Director-General of Health estimated that alcohol is directly causing 3000 deaths per year. But the misuse of alcohol is also a major factor in many other causes of death, including cirrhosis of the liver, tuberculosis, motor vehicle accidents, industrial accidents, and accidental drowning. According to the Senate Standing Committee on Social Welfare's report entitled *Drug Problems in Australia — an Intoxicated Society?*, at least 10% of the nation's health costs are related to alcohol. This means that alcohol-related illnesses cost us more than \$400 million each year.

Perhaps the most graphic illustration of the effect of the increased alcohol intake in this country comes from the figures for deaths from cirrhosis of the liver. In spite of the advances that have been made in medical technology, the number of deaths

Absolute alcohol consumption in 27 countries during 1975

	litres per head
France	16.9
Portugal	15.2
Italy	14.2
Spain	13.7
Luxembourg	11.7
West Germany	11.7
Austria	11.2
Hungary	11.1
Switzerland	10.7
Australia	10.0
Belgium	9.8
Czechoslovakia	9.7
Canada	8.3
Yugoslavia	8.0
Denmark	8.0
Rumania	7.9
Netherlands	7.8
United States	7.6
New Zealand	7.5
Ireland	6.7
Poland	6.6
England	6.6
Finland	6.6
Sweden	6.2
Japan	5.9
Bulgaria	5.1
Norway	4.2

Each year Australians drink more per head in terms of the absolute alcohol content of their liquor than any other English-speaking nation. Nevertheless, the nationals of nine European countries drink even more.

from this disease rose from 4.8 per 100 000 of the population in 1965 to 8.3 10 years later (about half of the deaths from this cause are attributed to alcohol).

Link with cancer

Of great interest also, but much less well known, is the relation between the drinking of alcohol in large amounts and certain cancers of the head and neck. Dr Basil Hetzel and Dr Tony McMichael, of the CSIRO Division of Human Nutrition, have taken a particular interest in this topic. Their analyses of statistics both in Australia and overseas leave no doubt that during the last 80 years cancers of the oropharynx, larynx (voice box), and oesophagus have been commonest after periods when the community's alcohol consumption has been particularly high. (Earlier overseas studies had yielded similar evidence of a strong association between a high alcohol intake and cancers of the head and neck.)

Their analyses imply that the number of cases of these particular cancers per head of the population must rise as the effects of the boom in alcohol sales that has followed World War II show up. Indeed such a rise has already appeared, particularly in men who are middle-aged or younger.

Alcohol-drinking has been with us since biblical times. Since 1900, both the amount drunk per head and the type have varied considerably. As the graph shows, spirits accounted for a far higher proportion of the alcohol consumed during the first 20 years of this century than at any time since. Nevertheless, even then a little more alcohol was consumed as beer than as spirits.

The Depression saw less of all types of alcoholic beverages being drunk. Beer consumption began to rise again about 1935, and, except during the early 1960s when it levelled off, it has risen ever since. It has increased threefold since the end of World War II. Consumption of spirits on the other hand barely started to increase again until the late 1960s.

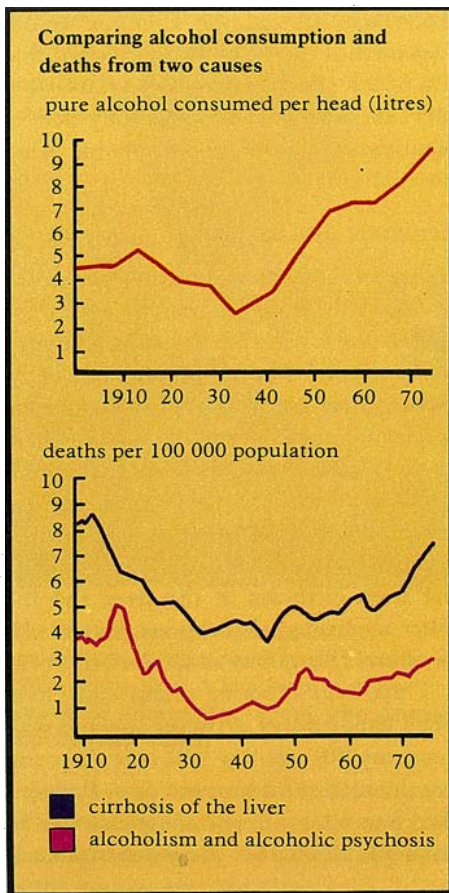
When it comes to alcohol consumption, Australia leads the English-speaking world.

Pattern shows up

Now, we know that most generations acquire their drinking habits as they leave adolescence and become adults. Thus the generation of young people that attained adulthood during the first years of this century may well have permanently adopted the habit of drinking large amounts of alcohol.

In the case of oesophageal cancer, Dr McMichael and Dr Hetzel reasoned, you would expect this particular generation to be one that suffered more than others as it became older. Why? Because those people born in the succeeding 50 years drank less and, although we don't have consumption figures for before 1900, the chances are that people drank less in the 1890s, since there was a major economic recession at that time. However, many of those who began drinking as they attained adulthood in the early 1900s probably failed to kick the habit, so this would have remained a heavy-drinking generation.

If you follow the statistics for deaths from oesophageal cancer for this generation, which would have been born around about 1880, a peak of deaths from this cause does indeed occur for each age group as this generation passes through (allowing for a 20-year period of latency before the disease appears).



Commonwealth Department of Health's statistics on the relation between drinking alcohol and deaths from cirrhosis of the liver, or from alcoholism and alcoholic psychosis.

Of interest also is the fact that deaths from this form of cancer have been rising again since about the mid 1950s, notably among people who are less than middle-aged. As mentioned earlier, this upturn seems to be closely related to the post-World-War-II beer boom.

Larynx too

For cancer of the oropharynx the figures yield a generally similar picture. More

The social effects of heavy drinking must increase sharply as the average level of consumption rises.

surprisingly, so do those for cancer of the larynx.

The association of an increase in the amount of cancer of the larynx with alcohol consumption is surprising because this passage is a part of the breathing system. Food and drink do not pass through it on their way to the stomach. One may expect, therefore, that cigarette-smoking would be a more likely cause. So the rise and fall of the graph of people dying of cancer of the larynx ought to follow that for lung cancer. It doesn't.

Using tobacco, particularly in the form of cigarettes, became popular only relatively recently. What's more, it reached high levels of popularity among men and women at different times. Although there are no figures to show it, cigarette-smoking is generally thought to have caught on among Australian men during and after World War I. Australian women generally didn't start until during and after World War II.

Thus while women may have always consumed less alcohol than men, the trends in the amount they consumed, and hence also those of alcohol-associated diseases, have been similar in women and men. In the case of tobacco consumption and its associated diseases, this has not been so.

The graphs of deaths each year attributable to lung cancer differ for men and women, but they closely follow cigarette

consumption in the two sexes — with about a 20-year time lag. The graphs for deaths attributable to cancer of the oesophagus and the oropharynx are completely different from those for lung cancer. They follow the pattern of alcohol consumption. So does that for cancer of the larynx.

Statistical associations do not, of course, prove that alcohol causes cancers of the head and neck. They are indirect evidence, and some other unexpected factor may conceivably be the actual cause. Nevertheless, in the absence of such a factor showing up it's reasonable to assume that drinking alcoholic beverages is indeed responsible.



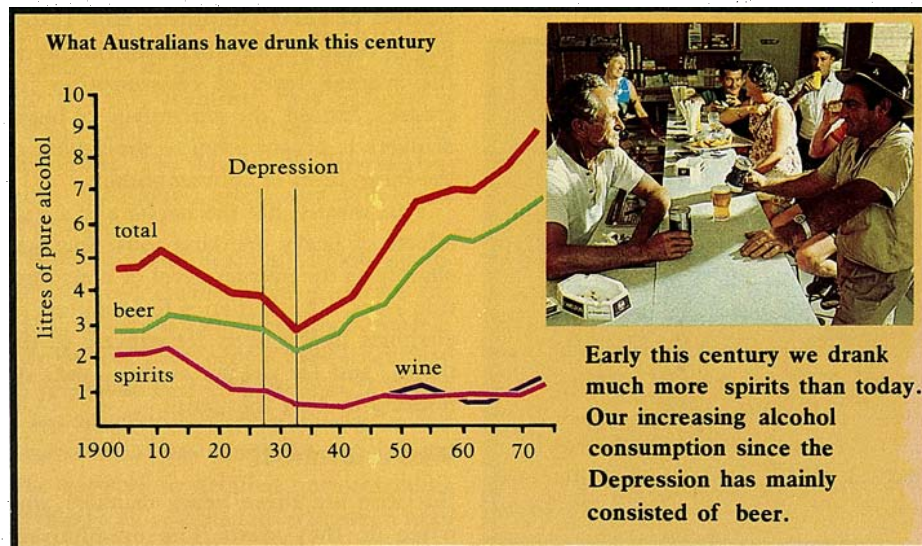
Drinking, of course, has its positive sides. Pubs, like the Criterion Hotel at Sale, Vic., are a part of our heritage.

The medical fraternity still does not understand how consuming alcohol raises the numbers of people who suffer from cancers of the head and neck. However, there is a good deal of evidence that alcohol and tobacco have a synergistic effect — in other words, tobacco and alcohol combined have a greater effect than one would expect from adding the effects of each separately.

While statistics of the number of people suffering from cancers of the head and neck tell us how many people are suffering from this form of alcohol-induced misery, and its cost in terms of health care, they don't tell us much about the type of people who become heavy drinkers, or the proportion of the community that such drinkers make up. Much of this information has come from breathalyser tests, and from the morgues and casualty departments of hospitals that receive the dead and injured victims of road accidents.

Accidents? No!

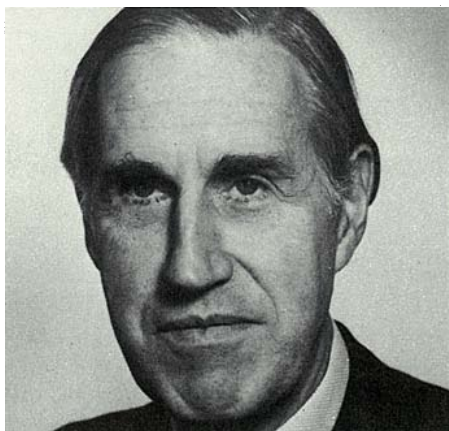
The Senate Standing Committee on Social Welfare's report into Drug Problems in Australia made what may look like a curious recommendation. It



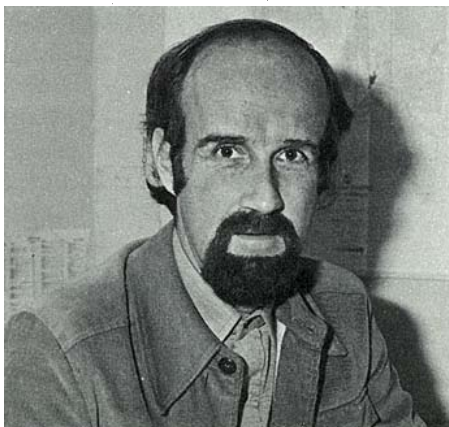
suggested that governments and the public use the term 'road crash' instead of 'road accident'.

It did so because it believed that the word 'accident' suggested something that was unavoidable. However, a study of drivers killed in crashes throughout Australia in 1975 suggests that one in three had blood alcohol levels in excess of 50 milligrams per 100 millilitres of blood (that's a blood alcohol breathalyser reading of 0.05 g per 100 ml — the legal limit in Victoria). An earlier study of dead drivers in Victoria revealed that, of 409 tested for their blood alcohol content, 181 or 44% had levels above 100 mg per 100 ml.

A previous study of breathalysed drivers showed that the incredibly high proportion of 65% of 8550 tested in Melbourne had levels above 150 mg per 100 ml, as did 51% of the 6842 tested in Sydney and 67% of the 1146 in Brisbane. As Dr Hetzel points out, such levels indicate serious drinking problems, since most social drinkers wouldn't be able to sit in front of a steering wheel with such blood levels, let alone attempt to drive the car!



Dr Basil Hetzel.



Dr Tony McMichael.

It takes the body an hour to destroy the alcohol in the equivalent of two glasses of beer.

When thinking about drinking, it's worth remembering that consuming 10-oz glasses at 5-minute intervals for one hour will produce a blood alcohol level of 135 mg per 100 ml (0.135 on the breathalyser). Drinking such glasses at 10-minute intervals gives 65 mg per 100 ml, and even drinking them at 15-minute

intervals, in other words at four per hour, will give a level of 40 mg per 100 ml.

People commonly picture alcoholics as being the down-and-outs, the 'deros', or the 'skid-row' types. The rest of the drinking populace, even the heavy drinkers, are regarded as 'social drinkers'. But the evidence is not on the side of these traditional images.

For example, a study at St Vincent's Hospital Melbourne found that fewer than 10% of the men treated there for alcoholism were skid-row cases. Only 2% were over 64. Thus the great majority of male alcoholics remain in the Australian

workforce. Indeed the Commonwealth Department of Health has estimated that 4% of the workforce, or at least 160 000 men, are alcoholics. One can only wonder what these people cost us in terms of industrial efficiency.

Semantic difficulties

Using terms like 'alcoholism', 'alcoholic' or 'heavy drinking' is fraught with traps for the unwary. As the Standing Committee on Social Welfare pointed out in its report, there are no accepted definitions for such terms. Nevertheless, medical opinion now considers people who consume more than 80g of alcohol per day (the contents of ten 7-oz glasses of beer, or seven 10-oz ones) run a high risk of suffering from cirrhosis of the liver and the other medical complications of the state generally referred to as alcoholism.

Thus, regardless of moral considerations about heavy drinking, people who consume 80g per day will cost the community money for hospital care. Perhaps, therefore, a most important question to be answered is whether the number of such

These results lead to one conclusion: the heavy-drinking habit starts in the young.

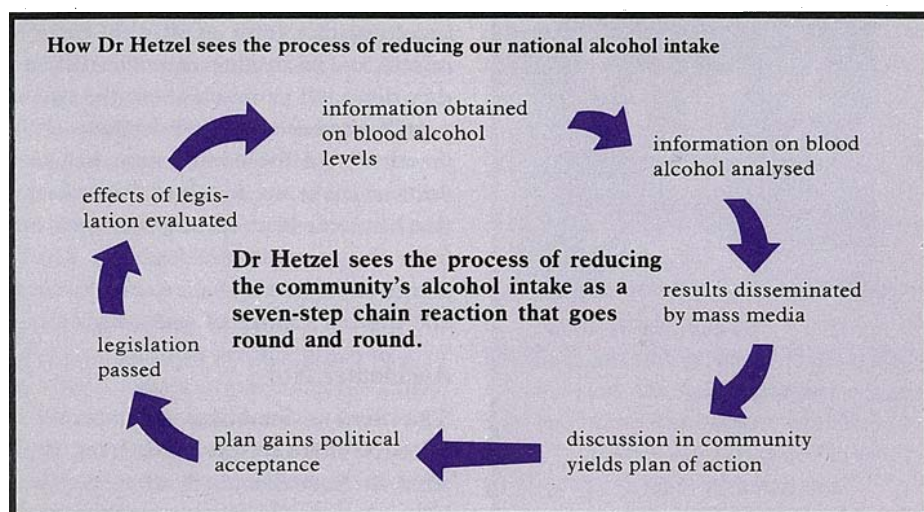
heavy drinkers is increasing, or whether the increase in sales of alcohol merely means that the number of relatively light social drinkers has risen.

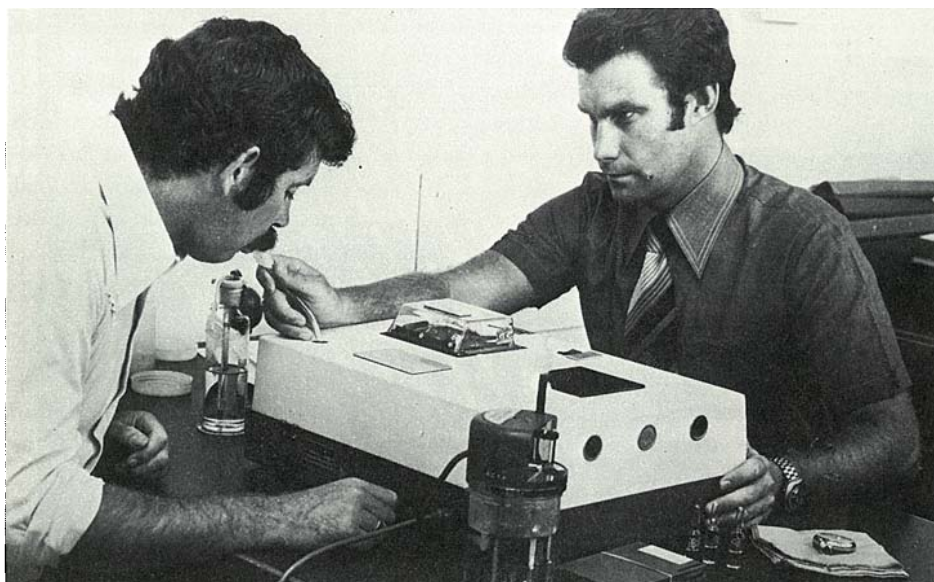
Conventional wisdom suggests the latter. But this isn't so. The evidence, both from Australia and from other countries like France, shows instead that the number of heavy consumers who absorb 80g or more per day increases sharply as the average level of consumption increases. Indeed, the percentage of heavy drinkers is proportional to the square of the mean level of consumption.

This means that the health and social effects of heavy drinking must increase sharply as the average level of consumption rises. The statistics for sufferers of cirrhosis of the liver, for cancers of the throat, and for deaths on the roads do nothing to deny this point.

Who is involved?

But who are these heavy drinkers, and when do they start? The breathalyser





The breathalyser first made its appearance in this country in Victoria in 1962. Since then it has been a major source of information about who drinks heavily, and when.

statistics from convicted drivers, selective though they are in that the police may pick on certain groups in the community such as the young, give the clue.

In a study in Victoria, for instance, drivers aged 25 years or less made up 42% of the sample, although they comprise less than 20% of licensed drivers. Nevertheless, this survey revealed two major age groups who were heavy consumers. Both were male. Young men between the ages of 18 and 25 made up the first one and, rather more surprisingly, middle-aged male drivers around 45 years old made up the second. The total number in the second group was considerably smaller than that in the first.

In the case of the young male convicted drivers, the blood alcohol statistics revealed what may be termed 'explosive' drinking at week-ends, when levels reached the range of 80–150 mg per 100 ml. In older age groups, much higher readings — in the range of 150–250 mg per 100 ml, amounts that indicate a chronic drinking problem — become commoner. The 45-year-old drivers contained the highest proportion with levels of this sort.

Admissions to hospitals following injury in road crashes also implicate the young drivers as a problem group. No less than 60% of 1266 people aged more than 15 years who entered Melbourne's Alfred Hospital after suffering injury in car crashes were less than 30 years of age. The answers to detailed questionnaires revealed a close association between high blood alcohol levels and heavy drinking.

Studies of fatalities point in the same direction. Of 251 dead drivers tested in 1972 and 1973, 47% were under 30, and 31% were under 25. Of those under 25 years of age, no less than 29% had blood alcohol levels of more than 150 mg per 100 ml.

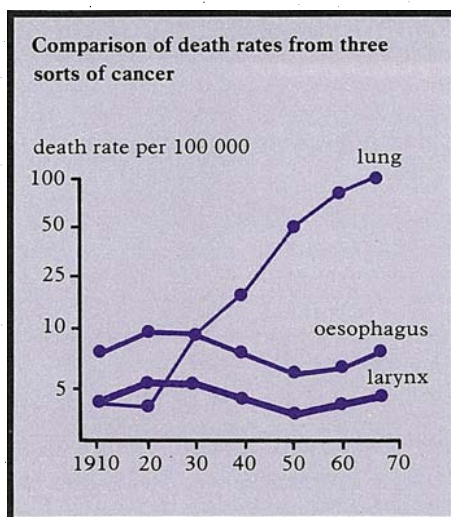
They start young

These results lead to one conclusion: the heavy-drinking habit starts in the young. Just how young drinkers can be comes from surveys of school-children in Sydney, which have shown that 10% of adolescents between the ages of 12 and 17 get very drunk at least once a month. Another survey in Victoria showed that 5.4% of all secondary school-children in this State drink most days of the week.

Dr Hetzel considers that two particular features of Australian society encourage young people to develop the drinking habit:

► Australia's 'Ocker' image and lifestyle

► active and aggressive selling by the brewing, wine, and spirits industries



The two feed on one another. Heavy alcohol consumption is an integral part of the Ocker image, and the makers of alcoholic beverages can play on the idea that drinking is an indispensable feature of the vigorous, athletic, and virile young — and not so young — Australian male.

Dr Hetzel suggests that using alcohol to promote tourism and the increasing ease with which one can buy bottles, cans, and casks — through drive-in liquor stores, and, in some States and Territories, in supermarkets — have also contributed to the drinking problem.

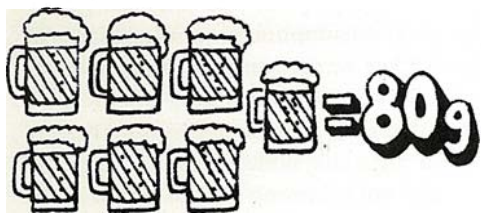
'Alcoholization', not alcoholism

What can we do about it? People in the younger age groups, where the problem seems to start, should at least be relatively amenable to rehabilitation courses. Nevertheless, Dr Hetzel points out, the vital thing to remember is that the number of people with a drinking problem in the community rises sharply as the national average of consumption rises — both here and in other countries. Thus the problem is one of what he has termed the 'alcoholization' of our society, rather than alcoholism. Dr Hetzel is convinced, therefore, that the only way to reduce the number of heavy drinkers is to reduce the average level in consumption.

He also points out that, although they may have some effect, laws placing heavy penalties on driving under the influence of alcohol will not solve the problem in the long run. Experience in Britain showed that the deterrent effect wears off. (Introduction of the breathalyser there did lead to a reduction in the number of crashes on the road, but only temporarily. Three years later the figures showed that this instrument was having no deterrent effect at all.) Trying to reduce the numbers of heavy drinkers on the road in this way must fail while the consumption of alcohol per head continues to rise, since the number of heavy drinkers in the community will be rising rapidly.

Obviously, reducing the nation's total alcohol consumption is a hard option. Dr Hetzel doubts that governments can be expected to force it on us by regulation — for one thing governments rarely stray too far ahead of public opinion, and also excise taxes represent a major source of revenue. The brewing, wine, and spirits

Numbers of deaths in Australia from cancer of the oesophagus and larynx follow the trends in our alcohol consumption — with a 20-year time lag. Lung cancer deaths follow the rather different pattern of cigarette sales.



industries, of course, are also a powerful lobbying group that employs large numbers of people.

Information needed

Clearly, the question can only be resolved by the electorate, but the electorate can't do this without being properly informed. In the opinions of Dr Hetzel and other expert witnesses who gave evidence before the Senate Standing Committee on Social Welfare, most Australians are certainly not properly informed, and most are not even aware of the facts about alcohol consumption. Few know that consuming the equivalent of 80g of absolute alcohol per day (remember, that's ten 7-oz glasses or seven 10-oz glasses of beer) constitutes a hazardous level of drinking. Equally few know that it takes the body an hour to destroy the alcohol in the equivalent of two glasses of beer.

While people's awareness of the problem of heavy drinking in relation to road safety has increased greatly over the last 10 years, Dr Hetzel believes that an adequate information program using the mass media is urgently required to compete with 'the highly skilled advertising methods' of the manufacturers of alcoholic beverages. Even, he suggests, members of the health professions need to be much better informed.

While it may have agreed with these sentiments, the Standing Committee on Social Welfare recommended that Com-

monwealth and State Governments should provide financial assistance on a large scale only to those programs that have been shown in the past to produce the desired changes in behaviour.

Seven steps

Dr Hetzel sees the process of reducing the community's alcohol intake as a chain reaction that goes around in a circle.

He suggests that it consists of seven steps, in which the blood alcohol information is first gathered, and then analysed. The results are then disseminated through the mass media, and the discussion stimulated leads to a plan for solving the problem — a fourth step. This plan may not be palatable to all community interests and will therefore require political acceptance (the fifth step) before legislation will be passed (the sixth). The last step is implementation and evaluation of the legislation, which means that more information has to be collected, after which the whole process will go round again.

As an example of where this process has already happened, Dr Hetzel points to the compulsory breathalyser legislation that was introduced into Victoria in 1962. Here, early indications of the high levels of alcohol in the blood of dead drivers (step 1) led to the full examination of the problem during 1964 and 1965 by the Royal Commission into the Sale, Supply, Disposal and Consumption of Liquor (steps 2, 3, and 4). Political acceptance of its recommendations (step 5) led to legislation, which ordered compulsory tests of blood alcohol levels for all drivers suspected of being under the influence of alcohol.

Implementation of this legislation led to convictions, and in due course to re-

habilitation programs for some of these drivers.

Such compulsory rehabilitation programs are, of course, the stuff on which research operates. Thus they are providing more information about how to deal with drunken drivers. We can expect the wheel to go round the full circle again.

More about the topic

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The implications of increasing alcohol consumption in Australia — a new definition of the alcohol problem. B. S. Hetzel. *Community Health Studies*, 1978, 2, 81–7.

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Increases in laryngeal cancer in Britain and Australia in relation to alcohol and tobacco consumption trends. A. J. McMichael. *The Lancet*, 1978 (June 10), 1244–6.

Laryngeal cancer and alcohol consumption in Australia. A. J. McMichael. *The Medical Journal of Australia*, 1979, 1, 131–4.

Time trends in upper alimentary tract cancer mortality and alcohol consumption in Australia. A. J. McMichael and B. S. Hetzel. *Community Health Studies*, 1978, 1, 43–7.

Some facts about our drinking habits

The report of the Senate Standing Committee on Social Welfare lists the following facts about the effects of consuming alcohol in Australia:

- ▶ alcohol has been a major factor causing the deaths of more than 30 000 Australians in the last 10 years
- ▶ deaths from cirrhosis of the liver have risen 75% in the last 10 years
- ▶ from 1965 to 1976, the *per capita* increase in the consumption of beer has

been 27%, of wine 122%, and of spirits 50%

- ▶ more than one-quarter of a million Australians can be classified as alcoholics
- ▶ 1 200 000 Australians are affected personally or in their family situations by the abuse of alcohol
- ▶ one in every five of our hospital beds is occupied by a person suffering from the adverse effects of alcohol

▶ alcohol is associated with half the serious crime in Australia

▶ alcoholism among the young is increasing dramatically and as many as 10% of school-children between the ages of 12 and 17 get 'very drunk' at least once a month

