PREVENTION— Models and Strategies

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ABSTRACT

A model for prevention and some of its implications are examined. The range and nature of interest groups that have a stake in the areas of consumption of alcohol/drugs, crashes and safety are discussed. Existing prevention measures are reviewed and possible directions in each of these areas are explored. Broad-based approaches to attitudinal and behavioural changes and culturan shift are seen as essential to the facilitation and long-term persistence of the effects of interventions in discrete areas.

In 1972 it was estimated that:
"if the current incidence of traffic accidents in Australia (were reduced) by only one per cent this would mean a saving of forty lives a year, the prevention of 850 injuries, and the saving of over $8M in costs related to property damage, hospitalisation and insurance". (20, p103).

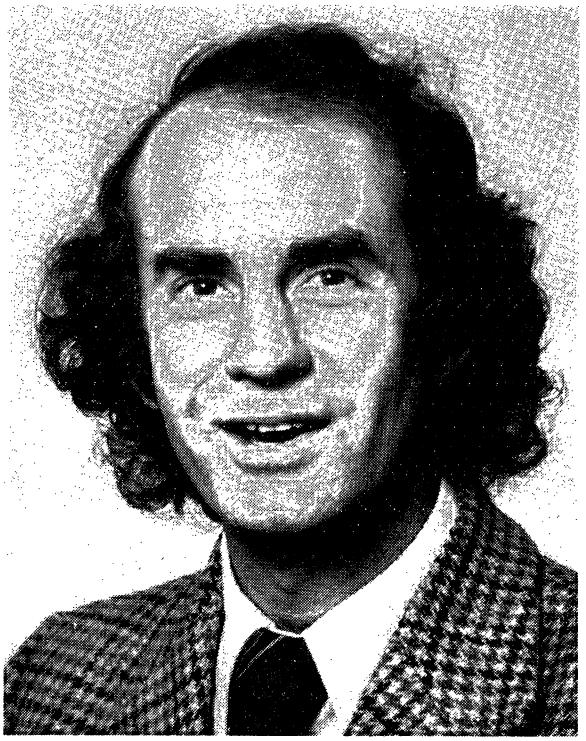
For the year ending 1976, it has been estimated that 1,757 people died in road accidents caused by excess alcohol consumption.[4] What are we doing about it? Clearly there is a need for much re-thinking in each of the areas that impinge upon alcohol consumption and driving behaviour.

A MODEL FOR PREVENTION

Any prevention programme worth its salt will address itself adequately to several related principles before launching into specific activities. The principles would be something like this:

1. A clear aim or series of aims need to be enuciated.
2. Programmes that are developed must be logically derived from, and compatible with, these aims.
3. Activities developed within programmes must in their turn, lock firmly into the logic and intent of those programmes, and antecedent aims.
4. The objectives of these activities must be clearly and unambiguously stated, and *must* be capable of being observed and measured in a non-subjective manner.
5. Monitoring and evaluation are essential to any activity and programme.

If any of these areas do not lock into one another, then one is in trouble. For example, if the aim of a prevention programme was to reduce the incidence of road crash fatalities, and the activities generated did not involve any accounting of fatality levels before, during and after programme, then it is falling down badly in working toward its stated aim, regardless of whatever other evidence of success might be brought forward.



From this, I hope it will be clear that programmes will be of little worth if they do no more than provide an interesting bit of research or personal and organisation satisfaction. Within the above framework, it would be possible to produce activities that follow all the principles enunciated and yet fail on ethical or moral grounds. All of our professions subscribe to some kind of ethical code but unless we are reminded there can be a tendency to cut corners.

For example: the psychologist or researcher who forgets to consider people in devising his scheme, and puts inordinate strain or hardship on police officers, court officials, treatment staff, or clients, for the sake of purity. Or: some of you may have seen the "C15" show recently, set in the hypothetical British town where the crime rate fell dramatically (objectives realised, aims fulfilled), but unfortunately this end was achieved by the unprincipled imposition of the chief's personal beliefs through both questionable and illegal activities.

So, while service and client needs might have been recognised and prevention principles adhered to, we would need to add a further guideline that covers ethical considerations.

Some of the care I have emphasised in generation of a program from aims through to activities might have seemed overfastidious, but the expense of mounting programs and the cost to the country is too great were we to back false leads identified through shoddy research and analysis.

Just as prevention structure is important, the aim chosen is a cornerstone to this framework. What are we really aiming for? Lower alcohol consumption *or* a lower frequency of driving after drinking over the limit, *or* road safety in its environmental implications of attention to progressive crumple rate of cars, better illumination and traffic control *or* lowering the incidence of alcohol-involved road crashes *or* lowering the incidence of injury and death resulting from such crashes?

For my money, the prime aim would be to reduce the incidence of alcohol-related injury and death on the roads. Because most of us take the research findings as adequately demonstrating casual links between certain alcohol, and drug consumption and these crashes, subsidiary aims might be in areas like reducing the incidence of driving after these types of consumption events. But while important, they would be secondary aims.

Let us now examine the range and nature of groups in our community that have a stake in this area.

INTEREST GROUPS

1. **Alcohol Industry**
   Production
   Brewers
   Vintners
   Distillers
   Drug Companies
   Illicit Producers/Manufacturers
   Marketing
   Hotelliers
   Restauranteurs
   Liquor and Supermarket Merchants
   Pharmacists
   Illicit Wholesalers

2. **Political Interest Areas**
   Excise
   Licensing Fees
   Sales Tax
   Party Fund Contributions

3. **Motor Vehicle Industry**
   Motor crash repairers
   Spare parts industry
   Motor vehicle sales
   Motor vehicle insurance industry

4. **Legal**
   Court system (Magistrates, probation/parole)
   Police

5. **Roads and Transport**
   Transport departments
   Vehicle inspection
   Road safety councils and schools

6. **Health and Welfare Industry**
   Hospitals
   General practitioners
   Pathologists
   Alcohol/drug assessment, treatment and prevention services
   Family/childrens service groups

7. **Education**
   Schools
   Colleges
   Adult Education
   Media programs
   Societies/Clubs

Each of these groups plugs in with an interest in one or more areas of consumption, crashes, and safety. It is important to be aware of the full spectrum of interest within our community. It would be naive and unrealistic to attempt to mount a program within any one sphere without this broader perspective.

I will now briefly examine the nature of the interest of each of these areas and look at actual or possible approaches generated within them.

Alcohol Industry

The private consumption expenditure on alcoholic beverages, 1975-76, was $2646M[4] a sizeable enough incentive for continued interest in consumption by production and marketing industries.

The whole area of liquor advertising is currently highly controversial and one which I will discuss in the section on Education.

Two approaches offer interest for prevention measures: education/awareness and altering characteristics of drinks. Just as cigarette packets and prepared foodstuffs now carry labels containing information on content, in the same way liquor labels could specify percentage alcohol content, and hotel glasses could carry simplified guidelines of safe drinking rates for intending drivers.[3] Lowering alcohol content of some beers may only have effect if (i) these were cost attractive, and (ii) advertising promoted cultural acceptability of what would at present be regarded as unmanly.

The whole area of vitamin additives in alcoholic drinks was advocated extensively by persons like Cunningham Dax in the early 60's.[6] However such recommendations have not yet met with any success in Australia. While certain temperance advocates may have argued that it was immoral to turn alcohol more effectively into a foodstuff, prime reasons for the non-introduction of this measure have been potential cost to breweries and arguments that the customer does not like the taste of beer with vitamin B added to it.

On the nutritional side there is every reason to enrich what becomes essentially the major oral intake for a large proportion of chronic, heavy alcohol abusers. Such intake decreases vitamin A absorption[1] and less directly decreased vitamin B intake partly through changing the ability of the user to carry out the usual functions of obtaining, ingesting and processing nutritional food.[6] The involvement of low vitamin B levels in pathogenesis of a range of disorders, including polyneuritis, and both Wenicke's and Korsakoff's pyschoses is also widely recognised.[13,19]

The beneficial effects in cases of neuropathy of doses of vitamins, particularly the vitamin B complex have been adequately documented. While much is known of chronic states and consequent lack of concentration, slowing of reaction times, the effects of these mechanisms in sober alcohol abusers when driving is largely unexplored.[16]

In healthy social drinkers, reaction time was one area of improvement when vitamin complexes were added to the alcohol administered.[15]

Political Interest Groups

The Commonwealth Government expects to collect $1114M in excise in 1978-79.[8] This does not include sales tax which applies to spirits, nor does it include state and local authority liquor taxes.

As penetration and consumption rates increase, proportionate increases occur in these areas of revenue. However, on the debit side, the total cost to the community of the ill effects of alcohol consumption is conservitively estimated as in excess of $1200M.[7] Unfortunately we are not left with merely a near zero balance. Some of this cost is met by government but industry makes up much of this $1200M and eventually the cost gets passed on to consumers. Individuals also contribute heavily through income tax and insurance.

Some degree of restraint in the area of consumption might possibly be engineered by keeping the cost of alcoholic drinks relative to average income consistently high. Significant amounts could also be fed back to research, prevention and rehabilitation of problem drinkers identified in the early stages.

Some idea of current funding can be judged from the following. In 1978-79 the Commonwealth has allocated $1.2M for the Drug Education Campaign. In 1975-76 it directed $4.5M into projects specifically for assessment, treatment, and rehabilitation of alcohol and drug dependent persons.[8]

Motor Vehicle Industry

Table I — Insurance Industry (Private and Public) 1975-76

	Motor Vehicle $'000	Compulsory Third Party $'000
Premiums	489,530	334,559
Claims Incurred	371,528	387,149

from the Third Annual Report of the Insurance Commissioner, 1977 [29]

Consider the effect on the whole area of insurance, motor vehicle repairs and spare-parts industry if drink driving was eliminated. The industries represented would suffer a tremendous recession and retrenchments would be massive. Fortunately for these groups the effects of even the most powerful initiatives would not conceivably achieve a zero incidence rate of drink driving, and certainly any effective approaches to the problem would be gradual in their effect.

Legal Interest Groups

A noteable proportion of the time and energies of the judiciary and indeed of the whole court and legal system must be spent around cases where alcohol has played a contributing role. The Baume report indicates that alcohol is associated with half of the serious crime in Australia and that 73% of men who have committed a violent crime had been drinking prior to the commission of the crime.[25] This is not hard data but certainly highly suggestive.

Approaches that we will briefly examine are:

1. Court referral systems which link with re-education and treatment programs.
2. Approaches through legislation.
3. Increased penalties.
4. Changing police practices.

Court Referral Systems

Such a program has been spearheaded in Sydney by a team headed by Murray Farquhar, Chairman of the Bench of Stipendiary Magistrates.[17] Included in the planning and implementation were senior police, justice and public service officers. Such programs depend on adequate briefing of all agencies concerned and initial and on-going close liaison and cooperation between both legal and health systems.

Under this scheme offenders from four courts receive adjournments before sentence, and after assessment at an alcoholism clinic are offered a choice of three treatment programs. Once program employs counselling, a second education, and the third takes a psychological and educational approach combined with behaviour modification. Results published thus far are tentative but promising.

Two other notable treatment programs operate in relationship to the courts.

In a Melbourne-based program second and subsequenting offenders are informed at the point of seeking license renewal of the program offered by the Victorian Alcohol and Drug Dependent Persons Services.[5] This program aims to screen people with significant alcohol problems, to directly treat drink-driving behaviour within a short program, to gain acceptance of on-going treatment where indicated. Similarly, results are still to be forthcoming from this program.

The Saint Vincent's Hospital re-education program headed by Anne Raymond is one that has published results.[22] These indicate a lower re-conviction rate of those that pass through its courses.

Legislation

Few studies have been made of the effects of introduction of new legislation in this area. Compulsory breathalysing introduced to Britain in 1967 did not produce clearcut lasting effects.[11 12] The best interpretation made of the data to date is that there was a short-lived effect that was not sustained.

The only Australian study on the introduction of breathalyser legislation was carried out in the Australian Capital Territory in 1976.[11 12] No decrease in the proportion of drivers with elevated blood alcohol counts was observed. Results in Canada were no more encouraging.

The use of monitoring devices like the breathalyser are essential. We require to learn how to implement them effectively within impactful approaches.

Unfortunately, while there is ample evidence of the decrement of driving skills following use of other drugs such as cannabis,[21] the task of coming up with a whiz-bang monitor like the breathalyser seems far off. It also takes the body far longer than for alcohol to break down and excrete the active constituent. Were cannabis to be legalised, the problems of setting acceptable limits of intoxication for driving would be mind-bending themselves.[20]

Increasing Penalties

The great bulk of evidence indicated that suspension of licenses, increasing fines, mandatory gaol sentences and other such measures do not reduce the incidence of drink-driving.[11 14 23 28] Recently it came to my notice that the Victorian road toll over the last Christmas holiday period was surp-

risingly lower than that of the previous year. I was also informed that severer penalties came into force on December 1st. It would be gratifying to be able to say that the decrease was the result of this legislation. If this were the case, Australia would probably have a first. I trust analysis of that situation will be made.

Changing Police Practices

Two areas offer promise. Legislation in Victoria has allowed random breath sampling. Contrary to expectation it does not appear that a different population is being tapped.[26] No analysis of effectiveness of this kind of intervention has been released yet.[27]

Higher visibility of police and raising of the subjectively-judged liklihood of detection is considered a vital area by those studying effects of the 1967 legislation in Britain.[12]

Roads and Transport

There does not appear to be any obvious contribution to alcohol-related road crashes from type of roadway, geographical situation, traffic volume or relative proportion of drink-drivers.[30] Some promise is shown in the area of control devices that do not permit the starting of the motor under conditions where the driver is above certain level of intoxication.[11] However, there has not as yet been a demonstration of either effectiveness or acceptance of such measures.

As a subjective comment on media campaigns, I was most impressed by the Christmas period television promotion which hinged on a strong lever, self-interest of the young person who desperately wants to retain his mobility. At last we are starting to learn from the advertising agencies.

Health and Welfare Interest Groups

The health, welfare and education/growth interest groups would be seen as more aligned to the interests of individuals and groups of consumers. One in five hospital beds is occupied by persons suffering adverse effects of alcohol.[25] Earlier this decade Queensland's major acute psychiatric unit was estimated to have an average occupancy rate by alcoholics of 40%. 1.2 million Australians are affected personally or within their families by the abuse of alcohol.[25]

The load then, on health and welfare is a heavy one, and one which we as tax payers and health insurers are meeting.

The task is formidable in the two areas of prevention and treatment. Prevention efforts in education and health depend upon the creation of such awareness, attitudes, cultural pressures and behaviour that alcohol related injuries and deaths on our roads are minimised.

In treatment there is need for a comprehensive conceptual framework that provides an understanding of the development of alcohol misuse and abuse, its consequences and ways out of addiction. Such a framework should offer logical prescriptions for appropriate interventions by all the helping professions and indications of the priorities to focus on at each stage of recovery. We believe our Service has made significant steps in this area, and a colleague of mine is now in North America on invitation to use our newly developed framework in assisting the Chief Advisor to the United States Government in recommendations for prevention initiatives for the addictions. Because our framework does not focus specifically on alcohol and drugs, but on the developing person experiencing himself and the world, we believe that it is able to give us clues for approaches that might be fruitful in early stages of inter-personal stress, before an addiction pattern has developed. This has important implications for developing programs in prevention and early intervention in drink driving.

Raymond makes the point that a drink driving offence per se should be taken as indication of the need for closer attention and assessment.[22] Victorian Superintendent Stewart supports her in this interpretation of the studies that have been undertaken in that State.[26] However, if any of the programs in this area are to have a fighting chance they must adequately attend to the fact that the population of offenders is not a homogeneous one. Measures are currently being refined for early identification of the high-risk driver.[31] While this group in particular may benefit from re-education courses, specific approaches need to be employed for those assessed as having significant alcohol problems. Within the alcoholic sub-population there will be those who are more likely to drive dangerously and aggressively after consumption of alcohol.[9 24]

It should also be noted that drink driving is essentially a male phenomenon in Australia. Of those persons stopped in random tests in a Victorian study, only two per cent of those giving a positive reading were females.[26] This is just one twentieth of the expected level, where there are to be no sex differences in incidence.*[2]

Education/Growth

I will mention three approaches that have not been covered in other sections.

It would be interesting to carry out a long term study of the effects of exposing children to information on the full range and nature of the interest groups that we have looked at today – interest groups that encourage pressure, sometimes subtly often forcefully, to consume alcohol and other mind-altering drugs. Such a program would seek to open windows into the motivations of each of these groups and how the consumer is often used economically and politically only later to suffer in relationships, health and on the roads. By opening up to their awareness some of the myths and manipulations of advertising, they may as individuals and as groups be able to develop a better basis for choice in the areas of usage and levels of usage.

An approach advocated by most health education authorities today is the broad-based type that does not focus on alcohol and drugs specifically but looks at these as part of a wider course. Areas recommended are: decision making, communication, interpersonal relationships and understanding of self, values clarification, leisure activity, coping, information processing and problem solving.[10] Others see a need to go broader than these areas to include biological and ecological perspectives.

The other strand in current trends is to incorporate education and personal and group growth into a community development approach. As an example, staff of our Service are currently supporting a group of concerned citizens in Mackay who have seen the need for a small but inviting centre where persons who are lonely, bored, or unemployed can come to relax or to talk. This centre is aiming to be able to cope specifically with clients with alcohol and drug problems, but is not restricting clientele to this group.

It may be difficult to see how such an approach could have any measurable impact in the drink-driving area. I must agree that the likelihood of any early and measurable effect is beyond the levels of probability. However, it is my belief that without such approaches and without broad-based courses in schools,

*This figure is based on sex distribution of license holders for Victoria and does not allow for factors such as exposure.

there will be little ground-swell cultural support for the hard-hitting specific initiatives we are more comfortably accustomed to addressing.

CONCLUSION

Papers of this kind often conclude with a reiteration of the shocking facts and a plea for rapid effective action.

If the shape of our future is to be merely a magnification of past failures to choose healthier drinking and driving patterns, I believe the pressures to higher and more abandoned consumption will sweep us on until a third world war renders the few cries for prevention temporaily irrelevant.

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