DRINKING DRIVING

Report to the German Marshall Fund

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Introduction

It would appear that no country has as yet been able to devise an adequate definition of its problem of drinking driving. We shall deal more fully with the reasons for this in the initial part of our subsequent discussion. Suffice it to say here that one of the major obstacles is lack of methods for assessing accurately the number of persons who combine drinking and driving so as to present a risk to themselves and others. Thus, in spite of the fact that the literature on drinking driving has reached almost unmanageable proportions,[1] there is still no precise picture in any country of the extent of drinking driving.

This inadequacy obviously has implications not only for pure research but also for the lessons to be learnt by one country in observing how another country handles its drinking driving problems. For without a fairly exact definition of the extent of these problems it is impossible to say whether or not the country concerned is dealing successfully and effectively with them.

In the absence of a clear means of defining the extent of drinking driving in any national context we must rely, as does the existing literature, on indirect clues to the size of the problem. We shall discuss the kinds of data which have traditionally been and still are used to gain some idea of the extent of drinking driving in the first section of this report, because we, too, must tackle that hurdle if we are to identify countries with relatively effective methods of dealing with drinking driving.

Once we have identified those countries which seem to have the problem under rather better control (judging from the imprecise data concerning the size of the problem and the success of methods used), we must address the

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1. The attached selected bibliography represents only the more important contributions in recent years.

questions of which methods represent useful examples for which other countries. Here, again, we return to the question of defining the problem of drinking driving, this time with respect to the nature rather than the extent of the problem.

Experience in one country cannot reasonably be used to transfer intact to another country methods which seem to be successful. That sort of facile learning experience unfortunately does not seem to work across national boundaries. If lessons are to be at all useful in an international context, the problems and the context in which they arise and develop must be at least analogous in a general sense.

For this reason it appears that much comparative research is badly focussed, not least in the drinking driving field. In order to assess the possible usefulness of various Scandinavian, English and German experiences as learning tools beyond the national context for drinking driving prevention/control/treatment we must include in our discussion qualitative as well as quantitative definitions of the drinking driving problem in the different countries under analysis.

That is to say we must at least be aware of the kinds of people who create a drinking driving problem in each country (usually several very different subsets of the community) and who therefore are or should logically be the target of prevention/control/treatment strategies; and how they become the problem, i.e., what patterns of drinking habits and driving behaviour combine to create the risk. Moreover, we must understand to some extent how these persons and their behaviour stand in relation to the larger social context, because it is this juxtaposition which has a direct bearing on the kinds of prevention/control/treatment techniques adopted or adoptable in a particular country.

There is, as we have already mentioned, an overabundance of literature in this field and some of it, in fact, addresses the kind of questions raised here. However, it seems that we are faced with an embarrassment of what, unfortunately, cannot be termed "riches" and it is necessary to separate the wheat from the chaff. In this exercise the advice of experts in each country has served to reduce the difficulties to proportions manageable within the limited scope of this study.

By this method of informed selective reading and discussion we have attempted, firstly, to discover the most up-to-date quantitative estimates of the problem of drinking driving in Sweden, Norway, the Federal Republic of Germany and Britain. The data are not strictly comparable because the means available in each country for making that assessment vary considerably. This raises incidentally but importantly the issue of research and information gathering techniques as an integral part of the programme to deal with drinking driving. It is an issue of which governments seem finally to be taking cognizance.[2]

Secondly, we have tried to ascertain who the drinking driving populations are and what their behaviour is like. Again, the qualitative data are inadequate and at times recourse to informed guesses is all that is available.

Thirdly, we have tried to examine existing methods of prevention/control/treatment to establish why certain methods are used more readily than others; the extent to which the methods address the problem; the degree to which the methods are effective in preventing/controlling/treating the problem. This part of our essay is little more than a critical analysis of evaluative claims by various governments, practitioners or researchers, since the scope

2. For example, the recent consultative document in England noted the need for greater attention on research in the field to provide more precise information. (See Department of Transport. Consultative Document on Drinking and Driving. pp 55-57.

of this study prohibits empirical testing. That is not to say that the effort does not have value: the application of common sense and comparative information can help to distinguish real evidence of success from impressionistic assertions and to identify options which might be adapted to other contexts without detriment to their demonstrated effect. Beyond this, it is impossible for the present report to venture.

Quantitative Assessments of Drinking Driving

Literature and discussion about drinking and driving tends to draw heavily upon the experiences of the Scandinavian countries or Great Britain. The reason for the focus on these countries lies in their consistently low ranking on scales measuring the rate of traffic fatalities. Whether one counts deaths on the road per vehicle/kilometer or deaths on the road per population, Norway, Sweden and Great Britain rank low on the list, whereas the United States' position is either relatively high or low, depending on the measure.

The relationship between such data and the extent of drinking driving in the countries mentioned is not clear. Yet, not only are such statistics used to make a connection between the two, they are even used to support assertions that the low ranking countries have discovered more effective means of preventing/controlling/treating drinking drivers. It is necessary to step back from this elliptical train of thought and proceed more cautiously.

Is the difference in ranking for general traffic fatalities as between the consistently low ranking countries, such as Norway, Sweden and Great Britain on the one hand, and the inconsistently ranked United States on the other linked in some way to the rate of alcohol-related deaths on the road?

If we look at the causes of deaths on the road in the United States, it appears that over half are alcohol-related.[3] Are traffic fatality rates in Norway, Sweden and Great Britain lower, because there are lower rates of drinking driving deaths? If so, does this mean that in these countries people drink and drive less frequently, or are apprehended less frequently for drinking driving?

In the past, Norway and Sweden have been represented as countries which have developed effective means of dealing with potential drinking drivers so as to reduce the rate of drinking driving. But recent challenges[4] to this assertion have pointed to:

a) the absence of data;

b) the logic of drawing this conclusion from existing data; and

c) the tradition of drawing this conclusion based on impressionistic information.

Can we reach definite conclusions on this controversy? We shall begin logically with the data on traffic fatalities. Tables 1 and 2 present comparative information on the rates of deaths on the road:

a) by vehicle/kilometers; and

b) by population.

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3. Robertson, L.S., Rich R. and Ross H.L. "Jail Sentences for Driving While Intoxicated in Chicago : A Judicial Policy that Failed" in Law and Society Review (Fall, 1973)

4. Ross, H.L. "The Scandinavian Myth" (University of Denver)

TABLE 1

Deaths on the roads per 100 million vehicle/kms

as of 1975

Belgium	14
France	8.5
Netherlands	7
Germany	7
Italy	6.6
Australia	6
Norway	5
Denmark	5
Canada	4.2
Sweden	4
Great Britain	3.8
United States of America	3.3

TABLE 2

Deaths on the roads per million population

as of 1975

France	282
Belgium	278
Germany	270
United States of America	269
Australia	260
Canada	246
Denmark	233
Netherlands	229
Italy	182
Sweden	159
Great Britain	131
Norway	127

Source: Borkenstein, R. "Efficacy of Law Enforcement Procedures" in Alcohol, Drugs and Driving. M. Matlik ed. (Satellite Symposium of the 6th International Congress of Pharmacology on Alcohol, Drugs and Driving : Helsinki, 1976)

Problems with data

1) The vehicle/kms scale will tend to show countries in which individual persons habitually travel vast distances at the bottom of the scale. But what is at issue is the rate at which drivers take to the wheel while intoxicated to a point that affects their ability to drive.

2) If single car deaths predominate in the driving accident pattern of a particular country (a country in which there is a greater tendency for persons to drive alone in isolated areas where they may not meet any other road users and therefore only kill themselves if they are involved in a fatal accident) this will tend to skew the ranking on both scales. Countries with a greater traffic density will tend to show the reverse effect.

3) The fatalities per population measure is insensitive to differences in population compositions such that one country's population has a higher proportion of persons driving.[5] Whereas it is true that no age or economic group is precluded from potential passenger fatalities, some groups are less likely to figure among driver fatalities, so that it is logical to expect a higher fatality rate per population among a population more wholly comprised of drivers.

At present, no country systematically collects complete data using more sensitive measures which might give a truer comparison of the rates of deaths on the road. Therefore, we must be content with the relatively insensitive measures available from existing data and these tend to show that Norway, Sweden and Great Britain do, indeed, rank low on traffic fatality scales.

What implications do these data hold for drinking driving? To make the link between death on the roads and drinking driving, we may first look at alcohol consumption levels generally in the countries under study.

5. As a result of age distribution, distribution of income, efficiency of alternate means of transport, etc.

TABLE 3

Alcohol Consumption in Various Countries

1977 (litres per capita)

Country	Total litres	Spirits litres	Wines litres	Beer litres
France	16.4	2.5	101	46
Germany	12.4	2.9	23	149
Italy	12.1	7.0	94	14
Belgium	10.2	2.1	18	140
Australia	9.7	1.3	14	136
Canada	9.0	3.5	7	86
Denmark	8.9	1.8	12	116
Netherlands	8.8	2.9	12	84
U.S.A.	8.3	3.1	7	86
Great Britain	8.2	1.4	5	120
Sweden	5.8	3.0	10	54
Norway	4.4	1.9	3	46

Source: Alcohol Policy in Sweden (Stockholm : Centralförbundet för alkohol - och narkotikaupplysning, 1980)

Problems with the data

Per capita data may show a misleading pattern if large segments of the population of a particular country do not drink any alcohol at all. To the extent that this occurs the consumption rate is obviously much higher among those who do drink than the national statistic suggests. Given the fact that, at least until very recently, the temperance movement was rather powerful in Norway and Sweden, we might suspect that the figures in this table give a somewhat misleading picture of the actual situation in these countries.

Similarly, the distribution of consumption is not indicated by this measure in the sense that a country which ranks low on the scale might have a population the majority of which drinks only marginally, while a small but significant group drinks to extreme. Then, too, the implications of consumption rates for traffic accidents depend on a number of intervening variables such as the location and timing of alcohol consumption. In Sweden it is estimated that, at least, 10% of adult males are total abstainers, whereas 10% of the alcohol-consuming male population have alcohol-related problems. Drinking seems to occur mostly at weekend and holidays and mostly at home. The problem, according to high ranking police officials in Sweden, is that it is not socially acceptable to drink beer at lunch, as it is, for example, in Great Britain. Therefore, those who drink in Sweden tend to do so in the evening, when they consume their entire daily quota within a short space of time, rather than spread over the course of the day.

From the above table, it is also clear that the problem in Swedish alcohol consumption lies in the emphasis on spirits; Sweden ranks high in per capita consumption, although low in wine and beer consumption. Efforts to deflect drinking patterns by the introduction of a middle beer in 1965 were given up in

1978, because no marked effect on spirit consumption was seen. Since 1978, Sweden, unlike European countries, has had no middle beer available, and the sales of strong beer have risen substantially.

Commentators on Swedish drinking patterns all agree that it is the continued emphasis on spirits which lies at the root of the alcohol problem in Sweden and that the drinking driving problem is largely confined to a relatively small but problematic subsection of the community which drinks heavily.

Methods of estimating drinking driving rates

How can we make the link between traffic fatality statistics, alcohol consumption statistics and the drinking driving problem? The problem is not merely one of harm caused but of risk to the community. We do not know the full risk posed by drinking drivers because the assessment of risk involves circumstantial information and probability factors far too complicated for our present level of knowledge and science.

To varying degrees we may know post facto when drinking driving has occurred in the event of

a) road fatality;

b) injury in a road accident;

c) accident without attendant injury;

d) apprehension of a motorist; or

e) research tests.

The role of drinking driving is not always known in all such instances because breath or blood alcohol concentration[6] testing is by no means automatic in every case. National estimates of drinking driving tend to rely on one or a combination of such data sources. For example in England the availability

6. Hereinafter referred to as BAC. N.b. We shall use the mg/100 ml measure throughout (as used in the USA and the UK), converting when necessary; the conversion is approximate, using the formula .01% = 0.1 promille = 10 mg/100 ml. cf. Havard, J.D.J. "Cross-National Comparisons of Drinking Driving Laws" p. 639.

in recent years (on a voluntary basis) of the coroners' reports necessary in all road fatalities[7] have provided a basis for estimating the size of the drinking driving problem. But we would expect that the frequency of excessive BAC in victims of road fatalities might be greater than that in the drinking population as a whole, so that estimates of the total problem from such a source would need to take this skewing effect into account.

In Sweden, the recent introduction of police road-side sampling[8] has provided a different source of data from which to estimate the size of the drinking driving problem. Although this has been referred to as random sampling, it is, of course, no such thing, at least in the scientific sense. No police force could afford the resources to follow a truly random sampling procedure: it would mean, inter alia, stationing expensive equipment on little-used roads at times when the probability of testing a large number of motorists was very low. Obviously, the police sample selectively, choosing from their experience the times and sites for road blocks to coincide with the most cost-effective deployment of forces.

In Norway, recent estimates of the drinking driving problem have used as their base hospital records of accident casualties.[9]

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7. Since 1966 returns of BACs recorded on adult fatalities (within 12 hours of accidents) in England and Wales have been received by the Transport and Road Research Laboratory at a rate of approximately 45% of recorded cases. The laboratory believes the pattern of returns to be random and bases its estimates of total alcohol-related deaths on the road on this probability sample.

8. This change originated in a temporary 1974 law allowing experiments with breath testing devices at pre-planned traffic controls. The success of this venture led to the introduction in 1977 of a permanent law on breath test road blocks.

9. For the 12 month period 1 June 1976 to 31 May 1977 the dead victims of all fatal traffic accidents in Norway were tested for breath or BAC levels in excess of the legal norm.

Each of the above methods is clearly incapable of providing an accurate estimate of the full extent of drinking driving because the data base used in each instance is not derived from random sampling and represents at best a partial clue to the larger problem.

Comparative statistics on drinking driving

If we try to compare the estimated or reported drinking driving rates from a variety of data in the countries under discussion, the following picture emerges:

a) Drinking driving convictions. In the Federal Republic of Germany in 1978 about 160,000 persons were convicted of drink driving offences.[10] In England and Wales the comparable figure was 57,820;[11] in Norway the figure for 1976 was 7,166.[12] In Sweden the police quote the 1979 figure for persons convicted of drinking driving offences as 16,000.[13]

Although these data are comparable, the fact that they consist of absolute numbers makes them less useful indicators of the relative drinking driving problem than a proportional measure. Yet it is hard to know what population to choose in order to convert these figures to rates of conviction (per capita of the national population or per capita of the driving population - a difficult number to define and obtain).

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10. Half of these were involved in accidents.
Heinrich, H.Ch. op.cit. p.1

11. This includes driving under the influence of drugs other than alcohol.
Sabey, B.E. and Staughton, G.C. op.cit. p.3

12. Christensen et al. op.cit. p.11

13. Interview at Rikspolissstyrelsen

b) Drinking driving in accidents. In 1978 in the Federal Republic of Germany 2,405 fatal accidents were reportedly caused by drinking driving.[14] The overall proportion of alcohol-related fatalities was thus approximately 15%.[15] In the same year in England and Wales a conservatively estimated 20% of fatal road accident victims (1,500 out of 6,831) had BACs over the legal limit of 80 mg.[16]

In 1978 a large Swedish hospital survey of patients (not fatal victims) in the emergency accident unit showed that approximately 20% were "under the influence of alcohol".[17] In various hospital studies of accident victims (not fatal victims) in Norway between 1973 and 1975 the percentage of patients with BACs over 50 mg. ranged between 45% and 46%.[18]

The problems with these figures are self-evident. Quite apart from the difference in the dates of the information, there is the difficulty of the variety of units involved: accidents, fatal victims or injured parties. Then, too, some figures are national official statistics, some are estimates of national trends, and some are local statistics. To the extent that information is generally gathered for domestic purposes there is little or no attempt at comparability among different national research ventures.

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14. See Heinrich, H.Ch. Alcohol Safety Programmes in the Federal Republic of Germany (Cologne : Federal Highway Research Institute, 1980, p.1)

15. Bundesanstalt für Strassenwesen, Verkehrsicherheit und Unfallforschung (Cologne : BASt, 1980) p.3

16. This figure includes pedestrians who apparently bear as large a responsibility as drivers for road accidents. Cf. Sabey, B.E. and Staughton, G.C. The Drinking Road User in Great Britain. (Transport and Road Research Laboratory, 1980) p.10

17. Vården av alkoholmissbrukare (Socialstyrelsen, 1978)

18. Christensen, P., Fosser, S and Glad, A. Drunken Driving in Norway. (Oslo : Transportøkonomisk Institutt, 1978), p.19

c) Drinking driving in random road tests. Studies in the past decade in Norway, Sweden and the United States, using roadside survey techniques have shown that the incidence of BACs over 50 mg was generally lower in Norway and Sweden than in the United States.[19] Thus, Table 4 shows in descending order the percentage of tested drivers revealing 50 mg. or more BAC in various roadside surveys. There are no comparable studies for England and Wales, since the Transport and Road Research Laboratory reports that planned research using roadside surveys has so far not met with government approval.[20]

In this connection we meet with an interesting difference among the countries in the approach taken to random testing. This has come into effect in Sweden apparently without arousing undue hostility on the part of the driving public, who is observed to submit with a fairly good grace to the inconvenience of road blocks.[21] On the other hand, in England even scientists who favour the use of random testing for limited research purposes tend to be personally opposed to police road block testing as an unwarranted invasion of personal freedom. Since we would expect the scientific community to have the least hostile attitude towards random testing, it seems clear that public opinion in England will effectively preclude this possibility.

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19. Christensen et al. op.cit., p.25

20. In the absence of legal authorization for random police testing of drivers at road blocks, the problems of obtaining a research sample along similar lines are legion. The research operation would face the dilemma of what course of action to take when a driver tested was found to be over the breath or BAC limit. Although the laboratory proposed to make accommodation or a driver available to any driver over the limit, the difficulty of a refusal by the driver to avail himself of these facilities and insistence on driving further was the main stumbling block in the research project. So far no solution has been found.

21. The cost of "random" testing in Sweden was not as great an issue as in other countries debating its use, since road blocks were already part of police operations.

TABLE 4

Country	Year of Study	Number Sampled	% over 50 mg BAC
United States of America	1971	748	10%
	1975	815	3%
Norway	1971	1,927	2%
	1977	1,125	1%
Sweden	1975-6	500,000	0.2%

Source: Table adapted from information presented in Christensen et al., op.cit.

d) Estimates of the drinking driving problem. If we consider the three types of statistics mentioned we realize that none represents more than an approximate basis for estimating total drinking driving rates. The results of random testing come closest to providing an adequate basis, since they represent a cross section of the community, rather than a special high-risk subsection (such as persons involved in accidents or convicted of drinking driving offences).

In 1976 Müller used conviction statistics to estimate the drinking driving problem in the Federal Republic of Germany:[22] his figure of 48 million incidents per annum of drinking driving is based on the premise that only 1 in 300 cases is discovered and pursued to conviction.

In the same year Swedish estimates of total drinking driving incidents stood at about 178,000, or ten times the number of cases of suspected drinking driving handled by the police during that year.

From Norwegian studies of drinking driving convictions it is possible to extrapolate that in 1971 there were 3.5 million drinking driving instances for the 5,500 cases resulting in conviction or a conviction risk of 0.15%.[23]

To our knowledge no attempts have been made at similar estimates for England and Wales.

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22. Müller, A. "Der Trunkenheitstäter im Strafen-verkehr der Bundes Bundesrepublik Deutschland" in Beiträge zur empirischen Kriminologie vol. 3 (Frankfurt a.M., 1976)

23. See Christensen et al., op.cit., p.15

It should be abundantly clear from the above that the data available in the countries under discussion do not give a precise picture of the magnitude of the drinking driving problem. We know the numbers of convicted drinking drivers; but we cannot tell whether variations among these countries reflect real variations in drinking driving or differences in the levels of efficiency in detection or in the extent to which legal loopholes exist permitting detected drinking drivers to avoid conviction.[24]

We have a partial idea of the rate at which fatal accidents tend to involve drinking driving, but this tells us only about the more extreme instances of the general phenomenon. Only from Sweden do we have a large national selective sample as a basis for an informed estimate of the total problem. Until the other countries introduce "random", i.e. selective, police roadside testing, we shall have only very imperfect measures for comparing drinking driving rates among the countries concerned.

Qualitative Analysis of Drinking Driving

In this area research has been fragmentary and descriptions of the drinking driving population tend to be based on small samples. Nonetheless, there appears to be agreement on one point: the Scandinavian countries differ markedly from the other countries discussed in terms of the composition of their drinking driving population.

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24. E.g., in Norway, the law presumes guilt (i.e., a BAC over the legal limit) in cases where the driver eludes the police and maintains that his BAC is due to drinking at home before the police arrive but after driving. Swedish law does not have this presumption, so that the loophole exists for a driver able to run away from the police and reach home before they catch up with him again. In England, thought is being given to mandatory blood or breath tests for all drivers taken to hospital after a road accident; in the past, the emergency unit was often an escape route for persons hoping to avoid police testing. This loophole exists in Scandinavian countries also.(Cf. Blennerhassett Committee recommendations to resolve the problem, Section 8, pp. 33-34)

Sweden and Norway consistently present the view that their drinking driving problem is concentrated in the main on a small section of the general population with an acute alcohol problem. England and Wales, the Federal Republic of Germany and the United States have identified a subset of drinking drivers who have severe alcohol problems, but drinking driving is by no means confined to this subset.

If we look more closely at this question we see that there is some evidence to support the argued difference. Police statistics compiled from roadside testing since 1978 in Sweden indicate that the traffic intensity curve does not parallel the curve of BAC over the legal limit. This means that drinking driving is not most frequent when the traffic is at its peak; this would suggest that drinking driving is not a pattern of the average driving population.

The Swedish police have taken the results of police "random" roadside screening tests and divided those people for whom the test results were positive (i.e., those found to have a BAC exceeding the legal limit) into two groups - alcoholics and non-alcoholics (using the special register of persons undergoing special treatment or known to institutions or the court for an alcoholism-related record). Comparing the BAC curve for each group, we find that the non-alcoholic group show a normal distribution, whereas the alcoholic group shows a curve skewed in favour of the upper BAC levels.

There is thus a small proportion of the non-alcoholic population represented among those tested and found to have very high BAC levels; but the majority of the people with excessively high BAC levels tended to be persons known to have an alcoholism problem.[25]

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25. In Norway research in this area is scanty: an early study (Harkjerv, 1968) of 100 convicted drinking drivers in Oslo found that 31% had previous drinking driving convictions, 8.1% had been treated in a home for alcohol abusers and 5.5% in psychiatric hospitals.

As yet there is no extensive research on the social characteristics of this special group[26] - their obvious common feature being the problem with alcohol. The implications are that these persons who represent a high risk subset of the population are in the main identifiable from past or ongoing court and social services contact and that while the Swedish system deals effectively with the rest of the potential drinking driving population, this subset continues to present a grave problem.

In England, studies of convicted offender characteristics[27] suggest that drinking drivers are more likely to be under 50 years of age; single, divorced or separated; in semi-skilled or unskilled manual socio-economic groups; unemployed; and to have previous motoring convictions. A small subset of the convicted offender group, the high risk offenders, are defined as those with BACs over the 200 level or convicted twice within ten years for any drinking driving offence. The subset tend to be older than the other offenders; married; managers or unskilled workers; and to have previous convictions for alcohol-related non-motoring offences and other criminal offences.

Thus, in England and Wales there exists a special high risk group of persons repeatedly convicted of drinking driving, but whereas this subset obviously presents special problems[28] they do not comprise a major element of

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26. An early study of convicted offenders in 1964 revealed that 97.8% were men, 47.1% under 30 years of age and 62% unmarried.

27. Comparisons of offender and control groups carried out by the Transport and Road Research Laboratory, reported in 1980

28. Cf. The recommendations of the Blennerhassett Committee (Section 7, pp. 28-31) and the Consultative Document (Paras.44-54, pp. 15-19)

the overall problem. It would appear that members of the general public engaged in social drinking represent the majority of drinking drivers apprehended in England and Wales, rather than the hard drinking repeated offender. The system must be geared to deal with the drinking driving habits of a wide section of the public, as well as recognizing the problems posed by the high risk group.

In the Federal Republic of Germany, about 20% of drinking driving offenders each year are found to have prior alcohol-related offences. The rest of the drinking driving offender population appears to span many segments of the general population, including youthful as well as older drivers from various walks of like. It is not possible, therefore, to aim preventive or treatment measures at particular social groups, although the not inconsiderable repeat offender group is handled by special programmes.

The difference between the Scandinavian countries on the one hand and England and Wales and West Germany on the other in terms of the segments of the population most heavily involved in drinking driving means that the countries concerned tend to concentrate counter-measures upon different target populations.

Counter-measures

Legislative approaches

There exists a conspicuous difference between Scandinavian and European countries in the severity of the laws regarding drinking driving. In Norway and Sweden the legal limit for BAC is lower than in either England and Wales or the Federal Republic of Germany.[29] Thus, in the latter countries the legal

29. The Federal Republic of Germany has a second level of offence for BAC in excess of 130 mg., but even its lower offence limit of 80 mg. exceeds the Scandinavian limit.

limit stands at 80 mg.[30] In Norway and Sweden the legal limit stands at only 50 mg.[31]

The laws regarding drinking driving in all these countries are per se laws - that is to say that the law prohibits attainment of the specified level of blood alcohol. Prior to the introduction in 1967 of a statutory offence based on a fixed BAC in England and Wales, BAC evidence was used as part of expert advice to the court. Since at the time the decision rested with the court as to how to assess that evidence it was found that one third of defendants tried and shown to have a BAC in excess of 200 mg were being acquitted. Obviously, the per se laws have had an important impact on conviction rates.

The steps for obtaining the necessary evidence are the administering of a breath test, with a follow-up blood test when the breath test proves positive.[32] The law varies in the countries under discussion as to the circumstances under which the police may demand a test. As already indicated only in Sweden do the police have the right to test "randomly", i.e., at road blocks without reasonable course for suspicion. Neither the Blennerhassett Committee Report nor the Consultative Document were in favour of introducing similarly far-reaching police powers in England.

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30. The 50 mg. and 80 mg. levels are arbitrary BAC limits. Research on the effect of alcohol on driving shows that at either level skills may be impaired. The 80 mg. level corresponds to the sharp average increase in accident risk quantified by the classic "Grand Rapids" survey (1964) based on 6,000 drivers involved in accidents matched with a control group of 7,500 drivers. However, for the young or infrequent driver the same data reveal a sharp increase in accident risk at the 50 mg. level; for the experienced driver this may not occur until 100 mg. The data thus support either legal limit.

31. With a second offence in Sweden at the 150 mg. level.

32. In Sweden the use of breath tests only is being considered in the light of the great advances recently in breathalyser equipment.

We have mentioned earlier the loopholes in the existing laws which allow many persons to evade testing for excessive BAC levels. Furthermore, legal technicalities may render test evidence inadmissible if obtained by illegal procedure. In England and Wales the laws regarding the correct police procedures for stopping and testing the suspected drinking driver are complicated and the Blennerhassett Committee urged simplification to alleviate the dissatisfaction and frustration arising from the anomalies in the law.[33]

The legal penalties for drinking driving offences vary even more widely than do the proscribed BAC limits. In Sweden, the penalty for the offence at the 50 mg. level is a minimum of a 10-day fine and mandatory imprisonment (the maximum period being 6 months). The higher offence for 150 mg. carries a minimum 25-day fine and a maximum of one year's imprisonment.[34] The driving licence is normally withdrawn for periods ranging from one month to three years.[35]

In practice one month's imprisonment is frequently the penalty for drinking driving offences in Sweden. The severity of the punishment is the more remarkable given the otherwise more lenient penal system as compared with other countries. The relative gravity attaching to drinking driving offences can best be understood from the fact that in a given year over a third of all persons received into Swedish prisons are there as a result of drinking driving convictions.[36]

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33. Department of the Environment. op.cit., 3. 11 - 3.13, p.13

34. Law of 1951, amended 1978, 92

35. Driving Licence Act of 1977

36. There are some indications in Sweden of a move away from this emphasis of imprisonment. In 1966 the Royal Commission noted that there were too many people in prison for drinking driving - almost 40% of the prison population at that time. The later Royal Commission of 1970 also urged a reduction in prison terms, but was unable to suggest the abolition of mandatory prison sentences because of the perceived risk that the general public might interpret this as evidence that drinking driving is not a dangerous matter.

In Norway, the legal penalties are likewise severe: imprisonment is the normal punishment for drinking driving, the minimum period being 21 days. Licence withdrawal for at least one year is also mandated by the drinking driving laws; indeed, the licence is permanently withdrawn for a second offence.

In the other countries under discussion, the emphasis is on licence withdrawal rather than imprisonment as the main element of the sentence for drinking driving. In the Federal Republic of Germany a BAC exceeding 80 mg. results in automatic licence suspension for at least three months. For BAC levels over 130 mg. the licence is usually withdrawn for a period between six months and one year and a fine imposed.

Repeated drinking driving offenders lose their licences altogether and, before applying to take the driving test again, must undergo a medico-psychological examination to ascertain whether they are ready to learn to drive again. If the test proves negative, the offender must undergo a course of treatment for drinking drivers before qualifying to apply for a driving test.

In England and Wales, disqualification from driving for a minimum of one year (barring special circumstances) is mandatory upon conviction for drinking driving offences. For a second offender[37] the mandatory disqualification period is 3 years. The maximum fine is £1,000 and the maximum prison sentence 6 months.[38]

37. A person convicted twice in 10 years for a drinking driving offence.

38. The Blennerhassett Committee and the Department of Transport in its Consultative Document agreed upon the need for new procedures to deal with high risk offenders; the recommendations aimed at banning such drivers from the roads until they could show that they had overcome their drinking problem. Cf. Consultative Document 44-54.

Thus, by a variety of techniques the different countries have sought to prevent/control/treat drinking driving through legislation. The Scandinavian countries seem to favour lower BAC limits, more thorough-going apprehension strategies (road blocks)[39] and mandatory, if short term, imprisonment. England and the Federal Republic of Germany have concentrated upon disqualification and mandatory treatment of repeat offenders. This latter strategy has not yet been adopted in England, although successive recommendations have been made,[40] because it is estimated that if all drinking drivers over the 120 mg. limit were obliged to attend a treatment programme, this would involve approximately 16,000 persons per year.

Other approaches

In all of the countries under discussion media campaigns have formed a traditional part of the fight against drinking driving. The education of the general public to the dangers of drinking driving takes a variety of forms. In Scandinavia, efforts have been sustained for many years to keep up the public awareness of the effect of alcohol on driving; on the numbers of people killed and injured on the roads due to alcohol; and on the severe consequences of apprehension and conviction for drinking driving. The temperance associations and other non-governmental organizations have joined in this campaign.

Similar programmes exist in England and the Federal Republic of Germany. When the 1967 Road Safety Act was introduced in England, it was accompanied by an intensive public information campaign concerning the law and how it would operate.

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39. At the moment the Norwegian police must obtain special permission in advance for a planned road bock to test drivers. However, informed sources indicate that the law will soon be changed to permit police discretion similar to that allowed in Sweden.

40. Cf. Blennerhassett Committee Report and the Department of Transport Consultative Document.

Treatment programmes aimed specifically at the drinking driver have been adopted less extensively. Indeed, in Norway and Sweden there are no such programmes. In Norway, convicted drinking drivers tend not to serve out their short terms of imprisonment in local prisons, but rather to be sent to one of three prison camps situated in the countryside, where they are employed in chopping wood, etc. Some instruction is given at these camps and a recent Royal Commission Committee on Alcohol Policies recommended that the time be used to motivate offenders for treatment when released. However, there continues to be general scepticism about the effectiveness of treating people with alcohol problems and no mandatory treatment programmes have been advocated.

Nor are there any drinking driving treatment programmes in Sweden, although there are a variety of facilities for the treatment of alcoholics under the general auspices of the Board of Health and Social Affairs (Socialstyrelsen). However, Bjervek, a former member of the Royal Commission advocating suspended sentences for alcoholics found guilty of drinking driving who would agree to enter treatment programmes,[41] has very recently taken charge of a new prison unit within the Criminal Authority designed specifically for offenders wishing to stay drug- or alcohol-free.

In Stockholm, a court ruling insisting on mandatory treatment of a convicted drinking driver before restoration of the driving licence was overturned on appeal; mandatory treatment is not deemed part of the Swedish law.

The Federal Republic of Germany has introduced treatment programmes for the drinking driving offenders. A number of different courses are operated for this special target group. For first offenders there are

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41. The Swedish government did not implement the recommendation.

voluntary courses based on the Mainz 1977 model,[42] the Hamburg 1979 model,[43] and the Leer model.[44] For the habitual drinking driving offender courses are based on the behavioural psychological model (Verhaltenspsychologisches Modell),[45] the individual psychological model[46] and a variation of the Leer Modell.[47] The courses are run for small groups whose participants must attend thirteen two-hour sessions within seven weeks.

Courses based on the Leer Model are in operation in parts of Northern Germany, Hannover, Rheinland-Westphalia, Hessen, and Bavaria. Behavioural-psychological model courses are found in the Saarland, Rheinland Pfalz, Rheinland-Westphalia, Hannover and Northern Germany. The individual-psychological model courses seem to be confined to the Rheinland-Westphalia area, while the Mainz 1977 model is in operation not only there, but in Hessen and Bavaria.

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42. The oldest treatment model, used in Rheinland. This model stresses self analysis and proceeds, inter alia, from the premise that part of the drinking driving mentality consists in underestimation of the risk both of apprehension and of accident (the "it was just bad luck" argument).

43. This model contains elements of the general behavioural psychological model, in which the participants try to control their drinking by practising drinking slowly, refusing to drink in social situations and relaxing without alcohol.

44. An intrinsic part of this model includes the partipant returning after the course to report upon how he has managed to cope with his problems after leaving the group. The course and follow-up treatment lasts two years.

45. Based on behaviour modification by simulated practical situations demanding control of the drinking habit. See footnote 43 above.

46. Emphasizing group analysis of insecurities and general personality problems leading to alcohol abuse. Drinking analysed as part of lifestyle of the individual.

47. The model derives from the Leer region where it has been tested since 1971. It is shorter and consists of group sessions on alternate weeks. The development of the individual's drinking habit is traced historically and there is emphasis on educating the offender to the risks, social and other, of alcohol abuse.

These courses represent a new departure in European measures to deal with the problem of drinking driving. They have not been in operation long enough to allow extensive evaluation of their effect, but we shall deal with the preliminary indications of results as we turn now to the success claims and controversies concerning the various counter-measures adopted.

Evaluative Claims

The argument has raged back and forth concerning the success of the Scandinavian countries in dealing with drinking driving. The success claims are based, as we have mentioned, on the incomplete data tending to show Norway and Sweden as relatively low ranking on scales purporting to measure the size of the drinking driving problem.

Usually, the "success" of these two countries is attributed to their stern legislation. The first major challenge to this view came from H.L.Ross, who attempted to test the effect of the Norwegian legislation by before and after tests on accident rates. However, it has been quite reasonably argued that it is inappropriate to apply a time series analysis to the very small numbers of accidents around the year 1936, so that Ross' finding of no demonstrable effect is inconclusive by virtue of the limits of his data.

Conversely, definite proof of the effect of increased severity in legislation seems to exist for the 1967 Road Safety Act in England. After the introduction of the "breathalyzer clampdown" there was an 11% reduction in

road casualties. It has been argued that the effect was not long lasting, and English scientists themselves concede a diminishing effect over time. Nonetheless, the evidence remains.

It has been suggested that the casualty reduction effect was due to the intensive media campaign rather than the legislation per se. Probably the reduction was a result of the combination of severer laws and greater public awareness. Research indicates that in 1967 the public in fact had a grossly exaggerated perception of the risk of detection and that as it became obvious that apprehension was in reality not very probable[48] and that loopholes in the law existed, the deterrent effect began to wear thin.

This would suggest that public education may be a mixed blessing if information is conveyed honestly: scholars estimate that if a publicity campaign were launched to increase public awareness of the actual risk of detection, drinking driving might increase in England.

However, informing the public of the dangers of drinking and driving is quite another matter. On this point further publicity campaigns might prove an effective deterrent.

A study of the Swedish media campaign of 1975[49] concluded that for a population already highly sensitised to the dangers of drinking and driving, a publicity campaign might have no visible effect, save that of maintaining the existing level of awareness. The massive campaigns of this kind that continue to be organized from time to time in Sweden may well arise from the need for existing media campaign organizations to justify their

48. It is estimated that in England a breath test occurs once for every 750,000 vehicle/miles.

49. Norström "An Evaluation of an Information Programme again Drunken Driving". Stockholm University, 1980.

continued existence than from any deep conviction of the effectiveness of such measures in dealing with the drinking driving problem.[50]

One theory holds that it is the combination of intensive media campaign and stern legislation that proves the most effective. The English 1967 "clampdown" may be a case in point. In Sweden authorities admit that the downswing in road deaths in the 1974 to 1976 period may have been due as much to the seat belt legislation (or even to petrol rationing) as to drinking driving propaganda or the introduction of "random" roadside testing.

Certainly the drop in road casualties at that time cannot be attributed to the harsh penalties for drinking driving, since these have existed in Sweden, as in Norway, for many years. The Scandinavian experience is in this sense unlike that of other countries. Stern legislation on drinking driving was introduced there at a time when the driving population was practically non-existent compared with today's statistics. The driving population may be said to have grown up with that legislation. It is perhaps understandable that, as Hauge argues[51], the law has had over time a moralizing effect, creating the generally accepted norm that it is wrong to drink and drive.

Whatever the origins of the Scandinavian ethos against drinking driving, it seems that stern penalties alone may not have a

50. See Norström, op.cit., pp.9-11.

51. Interview with Ragnar Hauge, Statens Institutt for Alkoholforskning, Oslo.

deterrent effect. Experience in the United States would argue against this. A Chicago study in 1971 of mandatory jail sentences for drinking driving revealed no apparent effect.[52] In another 1971 study, in Tennessee, the deterrent effect of mandatory imprisonment could not be tested, because judges consistently counteracted the force of the legislation by suspending sentences.[53] This leniency derived from the judges' underestimating the amount of alcohol needed to reach the 100mg. BAC level.

This tendency to underestimate alcohol consumption is not confined to the judges in the Tennessee study. A recent programme introduced in Victoria, Australia, aims at persuading magistrates to reevaluate their ideas on the relationship between drinking and impairment of driving skills. Participating magistrates are tested for reaction ability in simulated driving situations before and after drinking. Apparently the experience has led to drastic reconsideration by many participants.[54]

Finally we may consider the effectiveness of programmes aimed at treatment of the drinking driver. The first evaluative results for the German courses are beginning to emerge. At the moment data are available only for the Leer model. Initial indications for recidivism rates (defined as reconviction for drinking driving during the period to date) are as follows: habitual offenders

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52. Robertson, Leon S. et al. "Jail Sentences for Driving while Intoxicated in Chicago: A Judicial Policy that Failed" in Law and Society Review 55(Fall 1973).

53. Shover et al. "Responses of the Criminal Justice System to Legislation Providing more Severe Threatened Sanctions" in Criminology 14:4 (Feb. 1977).

54. Interview with Victoria government official.

whose medical-psychological tests indicated that they did not need to undergo treatment had a recidivism rate of 20.5%, whereas for offenders completing the course the rate was 9.2%. The data require further investigation; it may be that the results reflect the inability of the medical-psychological examiners to assess accurately which offenders have serious drinking problems, rather than the effectiveness of the programmes in reducing drinking driving.

For all countermeasures the evaluative claims lack sufficient evidence. It seems that there is room for new strategies based on better information concerning past efforts. Experts in the Federal Republic of Germany refer to the experience of the American ASAP programmes as a valuable learning tool for their own attempts at treatment approaches. Certainly the German development of differential strategies for various target groups testifies to the increasing sophistication to which international exchange of ideas may contribute.

Perhaps, contrary to tradition, Scandinavian countries have something to learn from this example, particularly in view of the importance of the special high risk group in the drinking driving problems of Norway and Sweden. For the United States and England there may be the need to reconsider a combination of approaches to deal with the variety of target populations. It would seem that there is much work to be done before the public in these countries reaches a level of awareness about drinking driving problems comparable with the high information standards in Scandinavia.

This report has attempted to show the more important gaps in our present information and to indicate recent developments in the countries discussed that may be worth further attention from those concerned with possible approaches to the problem of drinking driving.

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