THE PROFILE OF THE SUSPECT DRUNK-IN-CHARGE DRIVER IN THE BELFAST AREA

by

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THIS PAPER describes some of the facts gleaned from a survey of 578 unselected suspect drunk-in-charge drivers seen over the period between January, 1973, to December, 1974, by one police surgeon in Belfast. In some instances the information is incomplete as the individual refused to be examined or to give a specimen of blood or urine for laboratory analysis. For the purpose of the series results of alcohol levels in urine were converted to equivalent blood levels using the ratio of 1.3:1 of urine to blood (Road Traffic Act Northern Ireland, 1970). All alcohol levels in blood are expressed in milligrams per 100 ml. The findings were recorded at the time of examination on a standard proforma and counts and analyses have been carried out by computer.

RESULTS

Age and Sex

The age of groups by decades was recorded and the preponderance of detection of 25-34 year olds can be seen in Table 1. Only 10 of the 578 suspects were women.

| Age in Years | 15—24 | 25—34 | 35—44 | 45—54 | 55—64 | 65+ |
|--------------|-------|-------|-------|-------|-------|-----|
| Ratio        | 1.08  | 1.85  | 1.50  | 0.92  | 0.38  | 0.01|

Social Class

All suspects were divided into the five social class groups in general use: (1) professional; (2) semi-professional and managerial (of large enterprises); (3) skilled tradesmen and clerical; (4) semi-skilled; (5) unskilled.

Those unemployed at the time of detection were considered separately. Table 2 shows the preponderance of social class (4). This may indicate a class of new rich evolving.
TABLE 2
Ratio of percentage of social class and unemployed distribution in the series to that in the general population of Belfast:

| Social Class | 1   | 2   | 3   | 4   | 5   | Unemployed |
|--------------|-----|-----|-----|-----|-----|------------|
| Percentage in Population | 2.7 | 9.2 | 46.2| 19.5| 17.0| 5.4        |
| Percentage in Series      | 4.75| 4.95| 28.71| 43.76| 14.26| 3.56       |

Amount of Alcohol Consumed
The figures of the specimen analysis by the Forensic Science Laboratory were used, and the mean blood alcohol for age was calculated from these levels. Table 3 shows an increasing amount to a relatively high level at 35-44 years, indicating an increasing intake with age to produce heavy drinking in this group. There was only 2 per cent variation in mean blood alcohol levels for social class groups within this age range. Blood alcohol levels were below 100 mg in 6 per cent and only 2 per cent were below 60 mg, while in 63 per cent the blood alcohol levels were 180 mg or greater.

TABLE 3
Mean blood alcohol levels for age groups

| Age            | Under 25 | 25—34 | 35—44 | 45—54 | 55—64 | 65+ |
|----------------|----------|-------|-------|-------|-------|-----|
| Mean alcohol level in mg | 160      | 181   | 229   | 202   | 160   | 193 |

Type of Alcohol
In general, social classes 1 and 2 drink spirits or wine, whereas the other groups drink beer almost exclusively.

Time of Detection
There was a definite, repeating pattern in time of detection, as shown in Table 4. This varied little over the duration of the investigation. The detection by day of the week was also characteristic, being lowest on Sunday and rising during each day of the week to reach a well defined peak on Saturday. The months containing holidays (March, July and December) had a higher than normal incidence of detection. The various patterns indicate the times of drinking but may also, to some extent, indicate some increased vigilance on the part of the police at specified times.

TABLE 4
Hourly detection percentage of drivers over 24-hour period

| Time      | 1200 to 1500 to 1800 to 2100 to 0000 to 0300 to 0600 to 0900 |
|-----------|---------------------------------------------------------------|
| Percentage of Detection | 1.21 | 3.98 | 13.84 | 26.30 | 47.75 | 6.20 | 0.36 | 0.36 |
Reason for Arrest

The attention of the police is drawn to drivers for many reasons. Most often it was due to a traffic accident, even if it was of a minor nature. Frequently it was due to a minor contravention of the Road Traffic Act laws, such as inadequate lighting of a vehicle or proceeding through traffic lights. A number of arrests were made because of confusion of the driver’s mental faculties; for example, driving incorrectly up a one-way street. Erratic driving was also the cause of a large number of arrests. This was often characterised by swaying from side to side on the road. Mechanical inability to control the car, such as stalling at traffic lights, exaggerated braking or swerving, was a frequent cause. There was a group classified as “miscellaneous causes” which were due to such factors as running out of petrol, trying unsuccessfully to enter or start a vehicle, or being asleep in the vehicle. A substantial number of arrests occurred in consequence of routine security road check points.

| Causes for detection with percentage for each sub-group. |
|---------------------------------------------------------|
| Accidents                                              | 31.53 |
| Miscellaneous                                          | 26.87 |
| Erratic Driving                                        | 25.37 |
| Routine Road Checks                                    | 11.19 |
| Unspecified                                             | 5.04  |

Accidents

Accidents were the commonest single cause for detection, and a further analysis of this group of 169 suspects was carried out. Table 6 shows that no suspect with a blood alcohol level of less than 100 mg was involved and almost all were over 150 mg. In the 169 accidents many people were injured to a greater or lesser degree and there were three fatalities. As would be expected, the time of accidents followed closely the time of detection (Table 4), since accidents were the most common cause for drivers to be apprehended.

Table 6
Matrix table showing mean blood alcohol levels (mg) against age and time of day for drivers involved in accidents

| Age (Years) | 1200 to 1500 | 1500 to 1800 | 1800 to 2100 | 2100 to 0000 | 0000 to 0300 | 0300 to 0600 | 0600 to 0900 | 0900 to 1200 |
|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Under 25    | 0            | 185          | 119          | 124          | 172          | 161          | 0            | 0            |
| 25—34       | 0            | 198          | 173          | 196          | 164          | 190          | 0            | 0            |
| 35—44       | 206          | 208          | 194          | 213          | 208          | 147          | 281          | 0            |
| 45—54       | 270          | 200          | 211          | 206          | 168          | 162          | 200          | 0            |
| 55—64       | 0            | 107          | 221          | 192          | 201          | 0            | 0            | 0            |
| 65+         | 0            | 0            | 195          | 0            | 0            | 0            | 0            | 0            |
Eating Habits

All suspects were asked to state when they had had their last proper meal, other than a snack. This was recorded as the fasting time in hours from time of examination. This is shown in four-hourly intervals with the associated mean blood alcohol level in Table 7. Even though this data is largely derived from statements made by suspects and therefore open to question of accuracy, there emerges a well defined group of heavy drinkers who do not apparently eat. This number (5.2 per cent) may be early or established alcoholics.

| Fasting time (hours) | 0—4 | 4—8 | 8—12 | 12—16 | 16—20 | 20—24 | 24+ |
|-----------------------|-----|-----|-----|-------|-------|-------|-----|
| Mean blood alcohol levels | 266 | 185 | 188 | 188 | 169 | 184 | 240 |
| Percentage of drivers | 13.8 | 31.3 | 34.7 | 12.1 | 2.2 | 0.7 | 5.2 |

Drugs

Suspects were asked to state whether they had been taking any therapeutic drugs and these were recorded. Each was observed for signs of drug abuse. This was considered when a suspect had taken a quantity in excess of the prescribed dosage, when non-prescribed scheduled drugs had been taken, or where hypnotics had been taken in conjunction with alcohol. If suspected, the laboratory was requested for an analytical scan for the commonly used drugs. Abuse was detected in two cases by clinical signs.

The miscellaneous group contained a wide range of drugs and included many innocuous substances, such as alkali mixtures, etc. However, antihistamines for the symptomatic relief of upper respiratory tract infections, and cough bottles containing codeine and non-scheduled analgesics were frequently encountered.

| Prescribed drugs | Percentage of total | Abuses |
|------------------|---------------------|-------|
| None             | 85                  | 1*    |
| Valium (diazepam)| 2.9                 | 0     |
| Hypnotics        | 1.5                 | 3     |
| Anti-depressants and other psychotropic drugs excluding Librium | 1.3 | 1 |
| Antibiotics      | 1.2                 | 0     |
| Hypotensives     | 0.8                 | 0     |
| Cardiovascular drugs | 0.8 | 0      |
| Librium (chlordiazepoxide) | 0.4 | 0 |
| Miscellaneous    | 6.1                 | 0     |

*Tuinal (quinalbarbitone and amylobarbitone).
COMMENTARY ON SURVEY FINDINGS

Many facts and trends can be seen from the figures obtained in this survey and some are worthy of consideration. Drinking by drivers occurs in all the social classes and is more extensive in social class 4. This may be due to social class 4 having more money than financial commitments relative to the other groups. There is an increased detection in the younger groups, especially those 25-34 years old, and that for the under 25 year group was also greater than expected in relation to their numbers in the general population. This reflects an increasing predisposition to drinking in younger people and may be a measure of the increasing affluence and instability of this age group.

The high level of blood alcohol found in the 35-44 age group shows a trend to heavier drinking towards middle age, which then declines with increasing age. The average figure of 229 mg per cent for this group is evidence of hard drinking. In general, a blood alcohol level of up to 50 mg per cent can be achieved by ordinary “social drinking” (Ward Smith 1958). In the survey only 2 per cent of suspects had levels of 60 mg.

Random blood alcohol levels of over 175 mg probably reveal a drinking problem and may be sufficient indication to a general practitioner that something requires to be done for the individual. The association of high blood alcohol levels with prolonged fasting time of six hours and over almost certainly indicates alcoholism. A few of the suspects (5.2 per cent) fall within this group and it could be argued that courts might justifiably offer the offender a more lenient penalty if he agreed to psychiatric investigation and treatment. In certain circumstances this might seem more equitable, as the condition is an illness producing diminished responsibility.

Accidents featured commonly as the cause of reference of the drivers. More than half of those involved (59 per cent) were under 35 years of age and this relates closely to the proportion of this group in the whole series. This may give an indication that inexperience in driving may not play a great part in these accidents. However, this might be true on the premise that most drivers learn to drive while young. No driver with a blood alcohol level of under 100 mg had an accident, and almost all occurred in those with 150 mg or more. Lucas, et al (1953) showed that blood alcohol levels of 150 mg and over were eight times as common in the accident group as in the no-accident group.

The present findings confirm the view of Hargar (1958) that drivers with blood alcohol levels of between 50-100 mg are probably fit, those between 100-150 mg probably unfit, and those with over 150 mg are certainly unfit to drive. The British Medical Association, in a statement produced by the committee reporting on the “Relation of Alcohol to Road Accidents” stated: “The Committee cannot conceive of any circumstance in which it could be considered safe for a person to drive a motor vehicle on the public roads with an amount of alcohol in the blood greater than 150 mg per cent”. From time to time suspects were seen who could perform clinical tests quite well with blood alcohol levels of up to 200 mg. However, at this level their judgment must be impaired (Penner 1958).
In the series, the greatest incidence of accidents occurred between 2100 and 0300 hours, particularly on Friday and Saturday nights. This relates closely to the frequency of detection patterns. This increased frequency of accidents occurred in spite of the fact that road traffic was of much smaller volume during the period than in the day time. If the incidence of all hourly accidents is inspected, it can be seen that accidents occur in two waves of frequency. The first starts at 0700 hours and builds up with daily traffic, diminishing at 2000. The second wave starts at 2200 and eases after 0200 hours. Alcohol is a likely major causative factor in the second wave, although fatigue may also contribute and may to some extent act synergistically with alcohol.

A number (15 per cent) of suspects had taken drugs. This is probably a minimum figure. No “hard” drugs were encountered and there was little evidence of drug abuse. Of the 86 drivers who had taken some form of medication, 40 per cent had taken either hypnotics, tranquillizers or anti-depressants. Most of these impair the ability to drive and, when mixed with alcohol, the deterioration can be considerable. Doctors prescribing such drugs should bear this in mind. The availability of anti-histamines in cough bottles and their adverse effect on driving is also noted. Perhaps more control is required in this area.

SUMMARY

A survey has been carried out of 578 unselected suspect drunk-in-charge individuals seen between January, 1973, and December, 1974. The information obtained showed widespread drinking by younger people, increasing to fairly heavy drinking in the 35-44 year old group. There was a high incidence of accidents, and this was mainly associated with blood alcohol levels over 150 mg per cent.

A number of the drivers (15 per cent) had taken drugs in association with alcohol.

There appears to be a small group of alcoholics in the series, and for them psychiatric investigation and treatment may be indicated. The blood alcohol levels of all drivers were well above the level expected for social drinkers.

All aspects of drinking and driving deserve more publicity and research.

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