

Appendix 4: Summary of the Results of the Postal Questionnaire.

This appendix contains a summary of the results of the Postal Questionnaire (Appendix 2). It consists of three sections.

4.1 Code numbers for the Rehabilitation Programmes**4.2 Overall General Summary**

Table 1: Client Profile

Table 2: Staff Profile

Table 3: Course Components

4.3 Summary of Programmes which are conducted solely for drink-drivers.

(These programmes are marked with an asterisk in 4.1)

Table 1: Client Profile

Table 2: Staff Profile

Table 3: Course Components

4.1

CODES FOR PROGRAMMES

- *1. St. Vincents Hospital, Fitzroy, Vic. 3065
- *2. Road Traffic Authority Alcohol Education Programme. Victorian Road Traffic Authority, Hawthorn, Vic. 3122
- *3. Ballarat Regional Alcohol and Drug Dependence Association, Ballarat, Vic. 3350
- 4. Bendigo Drink Drivers Course, Eaglehawk, Vic. 3556
- *5. Chisholm Institute of Technology, Frankston, Vic. 3199
- *6. Delmont Private Hospital, Burwood, Vic. 3125
- *7. Doveton-Hallam Community Health Centre, Doveton, Vic. 3177
- *8. Geelong Centre for Alcohol and Drug Dependence, Geelong, Vic. 3220
- *9. Hobson Park Hospital Drink Drive Program, Traralgon, Vic. 3844
- *10. Lakes Entrance Community Health Centre, Lakes Entrance, Vic. 3909
- *11. Maroondah Social Health Centre, Ringwood East, Vic. 3135
- *12. Pleasant View Centre, East Preston, Vic. 3072
- *13. Coburg Community Health Centre, Coburg, Vic. 3058
- *14. Stawell Alcohol and Drug Dependence Association, Stawell, Vic. 3380
- *15. Vadcare, Shepparton, Vic. 3630
- *16. Wangaratta Base Hospital, Wangaratta, Vic. 3677
- *17. Warrnambool Base Hospital, Warrnambool, Vic. 3280
- 18. Westadd, Footscary, Vic. 3011
- 19. N.S.W. Dept. of Health - Kembla Hourse, Wollongong, N.S.W. 2500
- *20. Hunter Drug Advisory Service, Hamilton, N.S.W. 2303
- *21. Queensland Road Safety Council, Fortitude Valley, Qld. 4006
- *22. Royal Brisbane Hospital, Herston, Qld. 4006
- *23. Darwin and District Alcohol and Drug Dependence Found. - Amity House, Parap, N.T. 5790
- *24. Western Australia Probation and Parole Service, Perth, W.A. 6000
- *25. South Australia Dept. of Correctional Services, Adelaide, S.A. 5000
- *26. Alcohol and Drug Foundation, Canberra City, A.C.T. 2061
- *27. Division of Road Safety, Transport, Hobart, Tas. 7000

(* denotes those programmes which are conducted solely for drink-drivers.)

4.2 Overall General Summary.

Table 1: Client Profile

1.	Average number of participants per year in each programme	249
2.	Range	14-852
3.	Percentage of enrolled clients who are male	85
4.	Average age of participants	30 years
5.	Percentage of recidivist clients	50
6.	Percentage of clients who finish the programme	88
7.	Mean B.A.L. of clients	0.145

Table 3: Course Components

		<u>List of Programmes which Include these Features</u>
1.	Percentage of programmes collecting information on alcohol related problems.	66.6 1,2,3,4,6,7,8,10,12,14,17,19,20,22,23,24,25,26
2.	Percentage of programmes collecting information on alcohol consumption	63 1,2,3,4,6,7,10,12,14,17,19,20,22,23,24,25,26
3.	Percentage of programmes collecting information on drink-drive history	77.7 1,2,3,4,5,6,7,10,12,13,14,17,18,19,20,21,22,23,24,25,26
4.	Percentage of programmes which present information on an individual basis	0
5.	Percentage of programmes which present information on a group basis	74 1,3,4,5,6,8,9,11,14,16,17,18,19,21,22,23,24,25,26,27
6.	Percentage of programmes which present information on an individual and group basis	26 2,7,10,12,13,15,20
7.	Percentage of programmes in which referral is voluntary	37 3,6,9,13,16,19,22,23,25,26
8.	Percentage of programmes in which referral is coerced	37 1,2,4,5,8,11,17,18,21,27
9.	Percentage of programmes in which referral is both voluntary and coerced	26 7,10,12,14,15,20,24
10.	Percentage of programmes which include referral for alcohol treatment	70.4 1,2,4,5,6,7,8,11,12,13,15,16
11.	Percentage of programmes which include referral to social work agencies	63 1,2,4,5,7,8,12,13,15,16,19,20,22,23,34,25,26
12.	Percentage of programmes which have been formally evaluated	26 1,3,6,10,13,19,24

4.3 Summary of Programmes which are Conducted Solely for Drink-Drivers

Table 1: Client Profile

1.	Average number of participants per year in each programme	250
2.	Range	14-852
3.	Percentage of enrolled clients who are male	85
4.	Average age of participants	29
5.	Percentage of recidivist clients	45
6.	Percentage of clients who finish the programme	89
7.	Mean B.A.L. of clients	0.145

Table 2: Staff Profile

			<u>List of Programmes which Include these Features</u>
1.	Mean time involved in staff training	10 hours	
2.	Percentage of programmes which include staff training	71	2,3,6,8,9,10,11,12,13,15,20,22,24,26,27
3.	Percentage of programmes who employ psychologists	33	2,7,9,20,22,24,25,27
4.	Percentage of programmes who employ doctors for examinations of clients	18.5	2,6,17,24
5.	Percentage of programmes who employ nursing staff	37	1,5,6,9,10,12,15,20,24
6.	Percentage of programmes who employ other health professionals	33	3,5,7,9,10,12,14,22,24,26,27
7.	Percentage of programmes who employ administrative staff	25	2,3,7,10,13,15

Table 3: Course Components

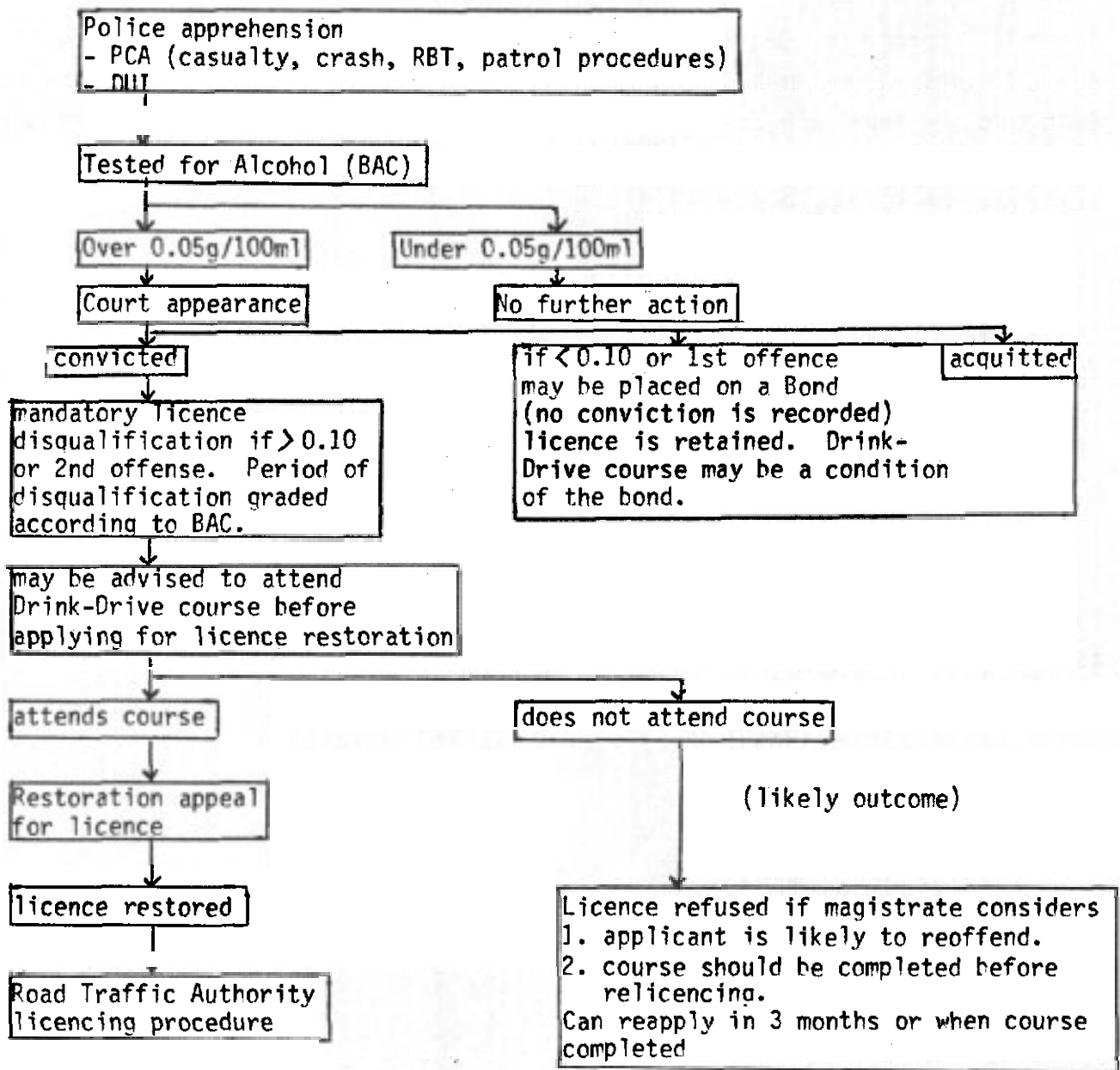
			<u>List of Programmes which Include these Features</u>
1.	Percentage of programmes collecting information on alcohol related problems.	58	2,6,7,8,10,12,13,14,16,17,20,22,23,26
2.	Percentage of programmes collecting information on alcohol consumption	54	2,6,7,8,10,12,13,14,16,17,22,23,26
3.	Percentage of programmes collecting information on drink-drive history	71	1,2,5,6,7,8,9,10,11,12,13,14,16,17,22,23,26
4.	Percentage of programmes which present information on an individual basis	0	
5.	Percentage of programmes which present information on a group basis	75	3,5,7,8,9,10,11,12,13,15,16,17,20,21,22,23,24,27
6.	Percentage of programmes which present information on an individual and group basis	25	1,2,6,14,25,26
7.	Percentage of programmes in which referral is voluntary	33	1,7,8,15,16,17,21,24
8.	Percentage of programmes in which referral is coerced	46	2,3,5,9,10,11,12,20
9.	Percentage of programmes in which referral is both voluntary and coerced	21	6,13,14,22,25
10.	Percentage of programmes which include referral for alcohol treatment	67	1,2,6,7,9,10,12,16,17,20,21,22,24,25,26,27
11.	Percentage of programmes which include referral to social work agencies	58	1,2,6,9,10,12,16,17,20,21,22,24,25,26
12.	Percentage of programmes which have been formally evaluated	29	1,3,6,10,13,19,24

Appendix 5: Legal process following apprehension: conviction and referral of drink-drivers.

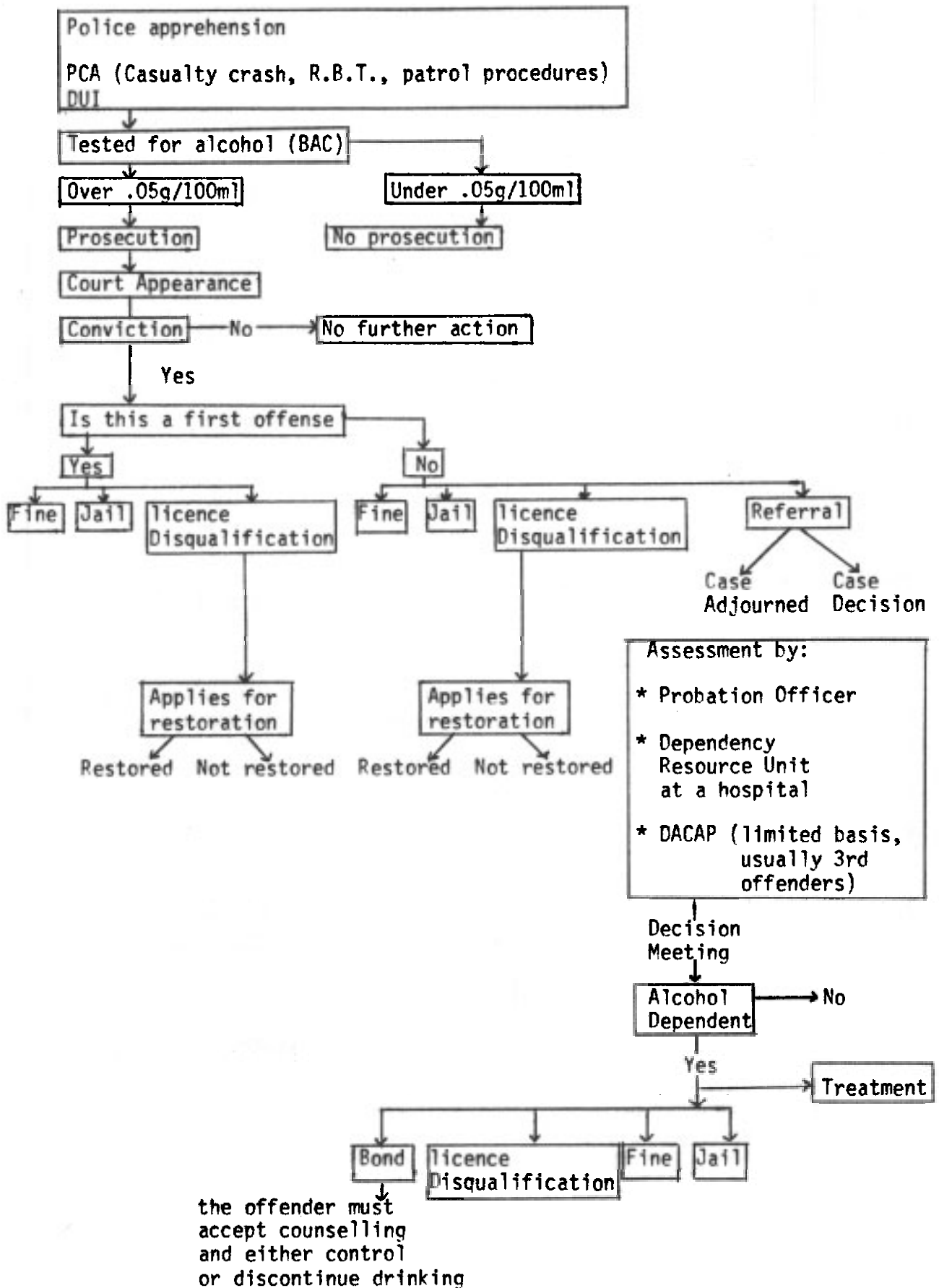
Appendix 5 describes the processes involved in the conviction and sentencing of drink-drivers. For each Australian state and in New Zealand a flow chart depicting the legal processes that occur after someone has been apprehended as a drink-driver is presented. The appendix contains nine sections one for each state and one for New Zealand.

- 5.1 Victoria
- 5.2 New South Wales
- 5.3 Queensland
- 5.4 Northern Territory
- 5.5 Western Australia
- 5.6 South Australia
- 5.7 A.C.T.
- 5.8 Tasmania
- 5.9 New Zealand

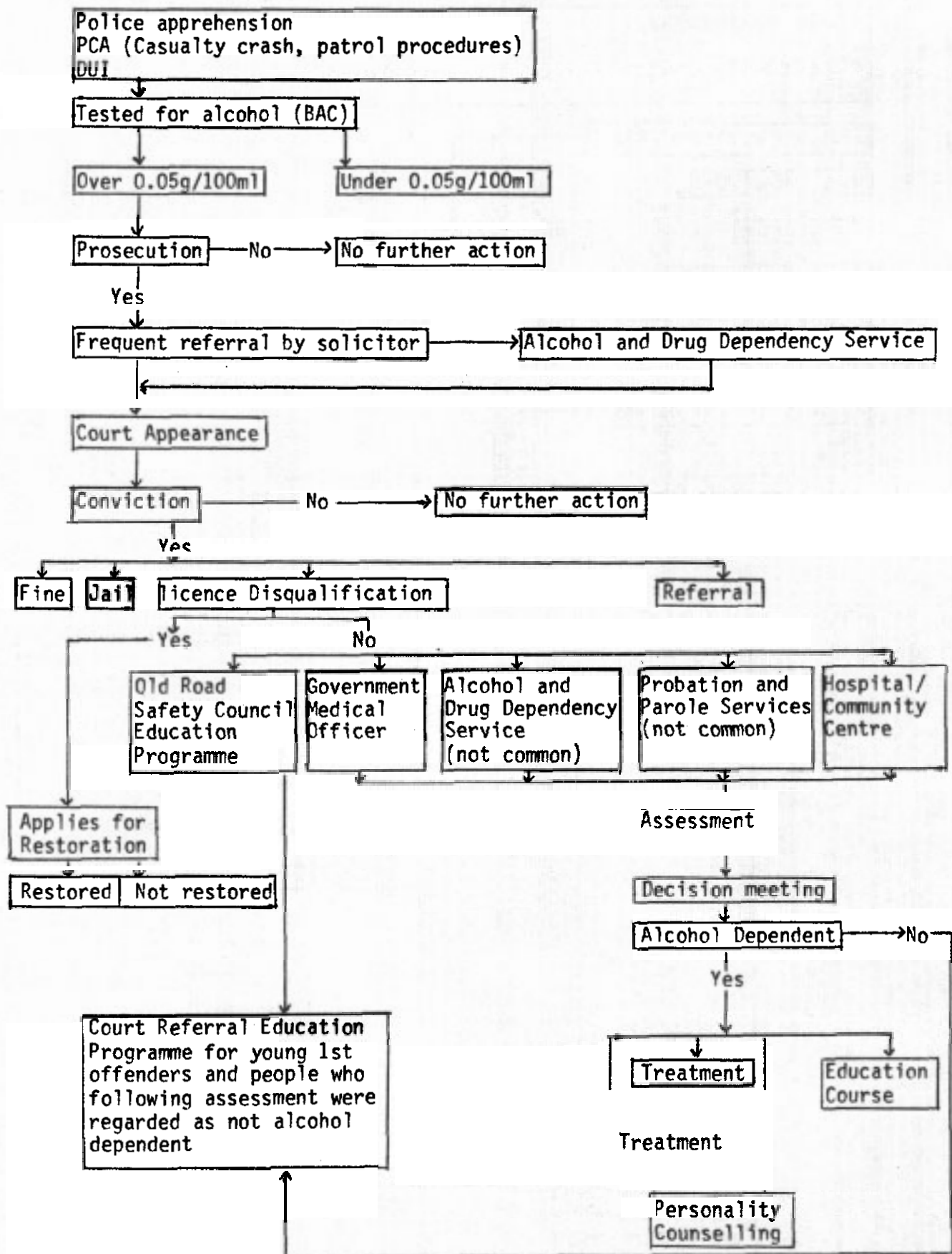
5.1 Victoria - Treatment of Drink-Drivers

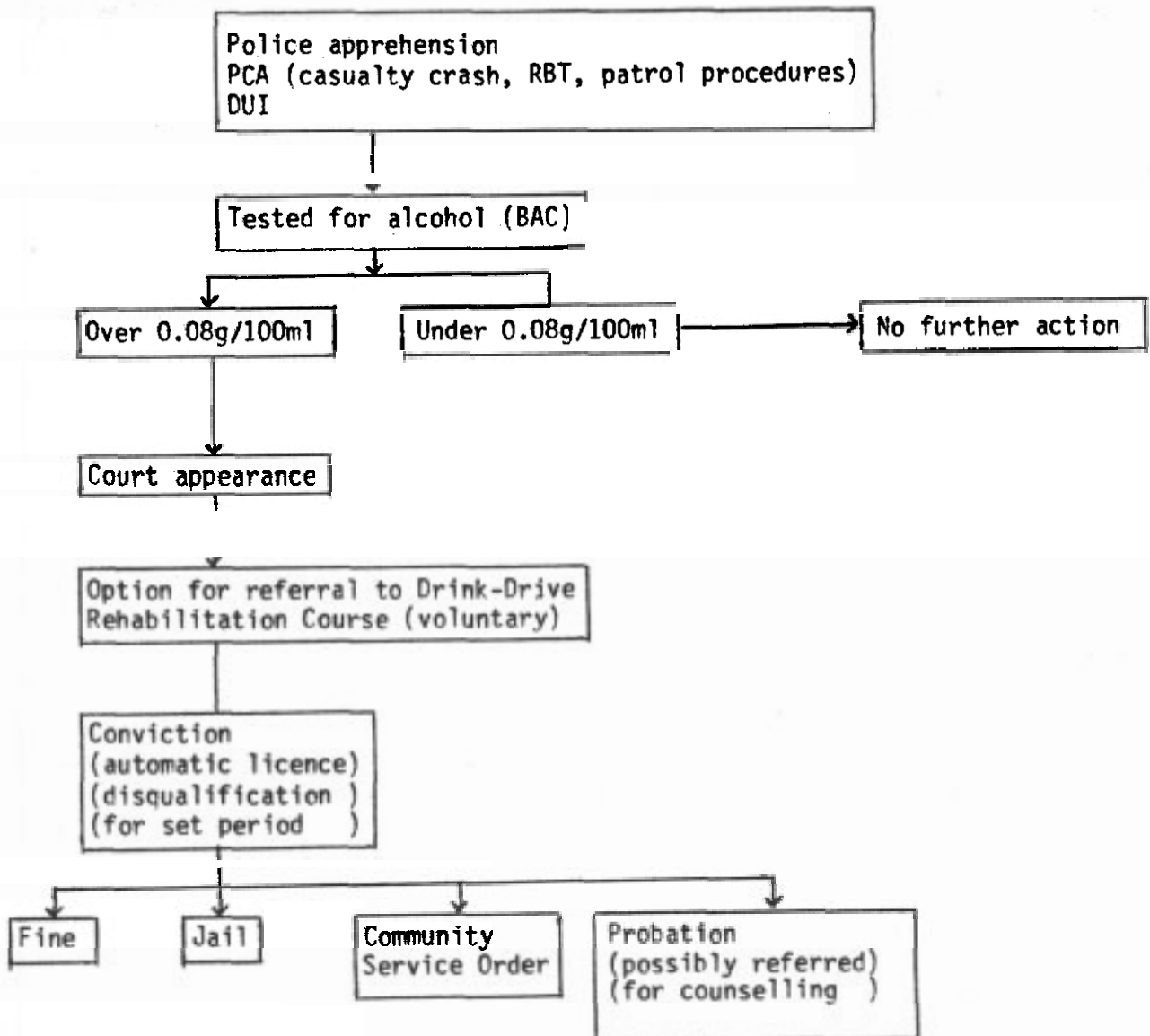


5.2 N.S.W. - Treatment of Drink Drivers

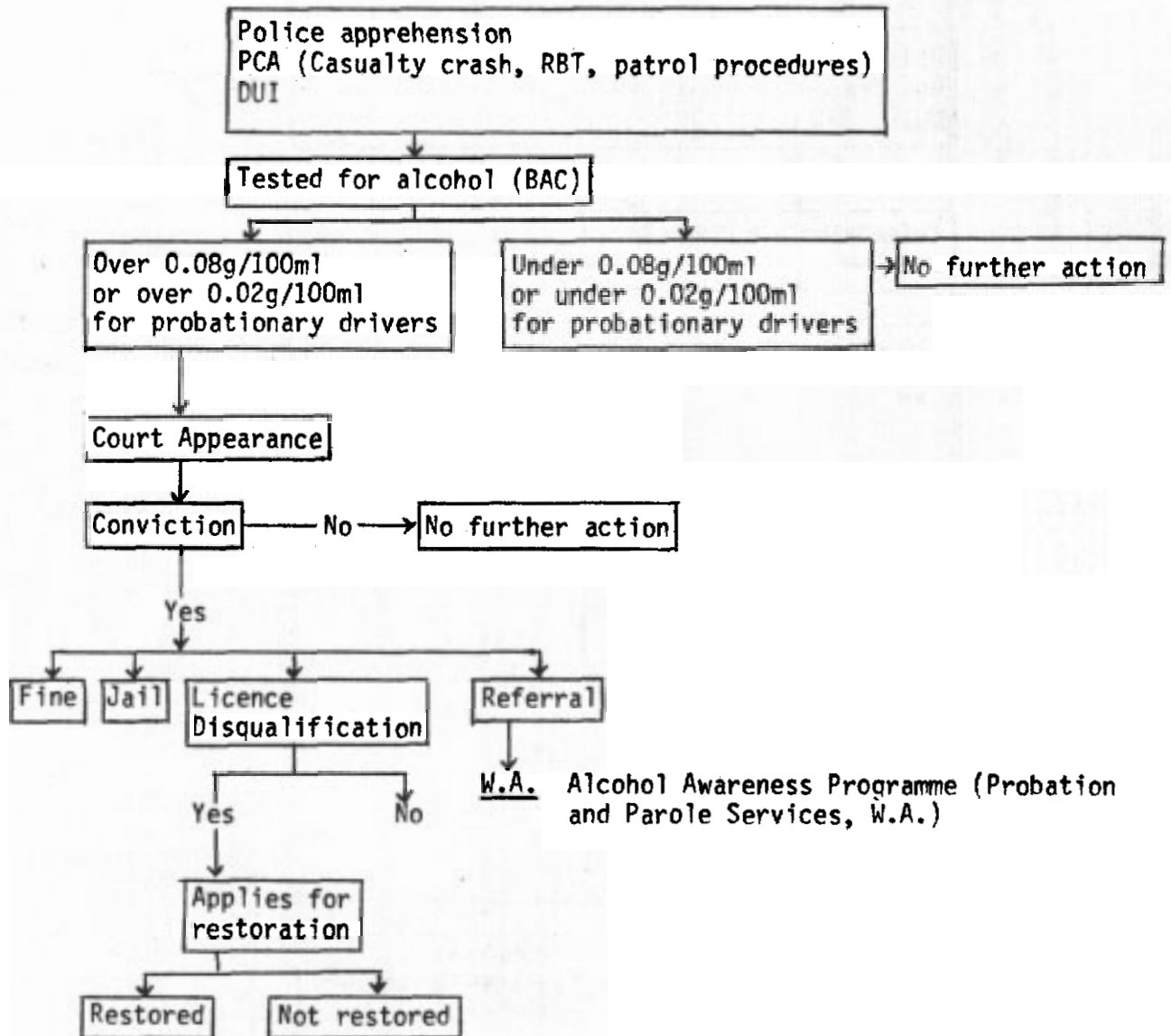


5.3 Queensland - Treatment of Drink Drivers

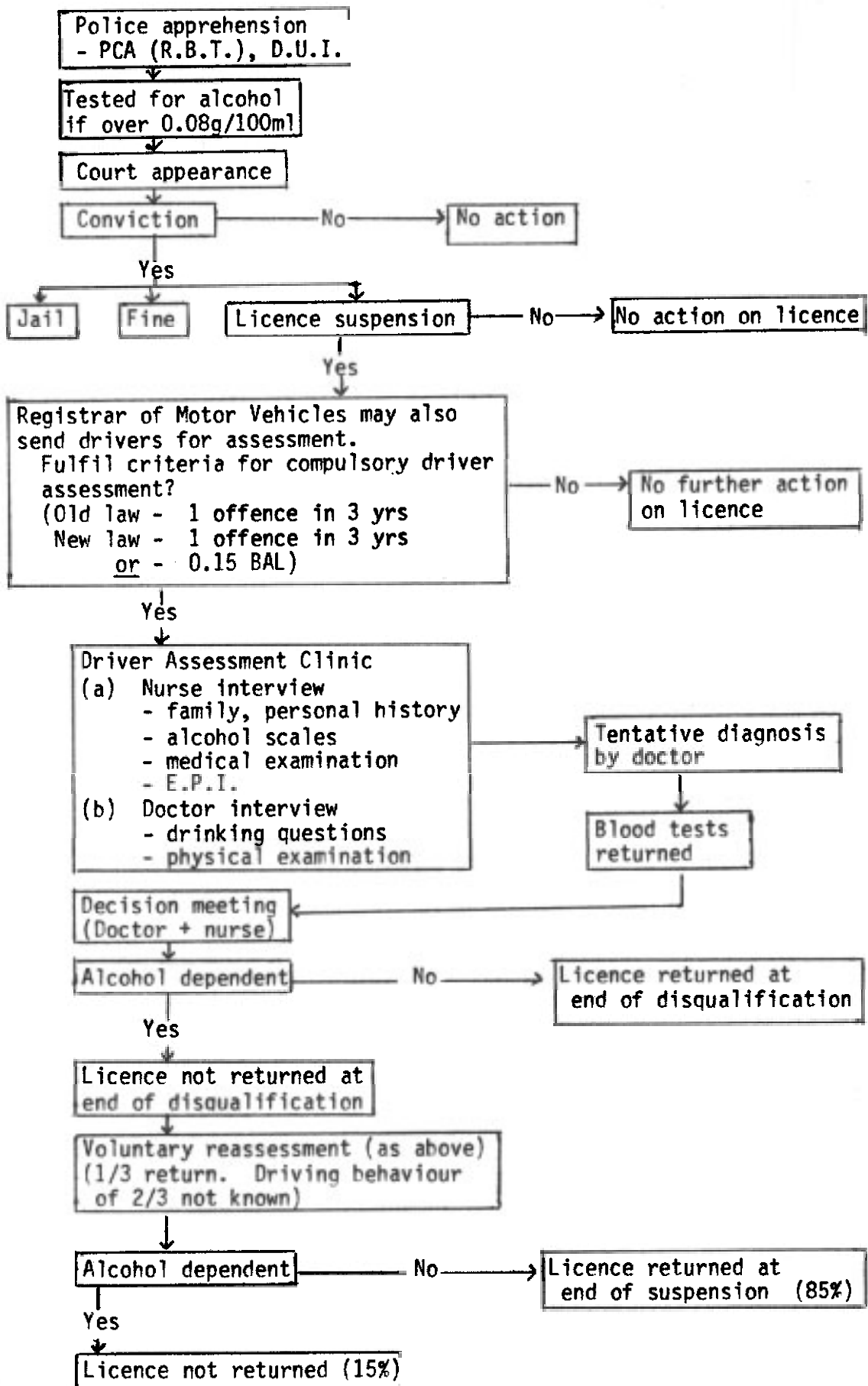


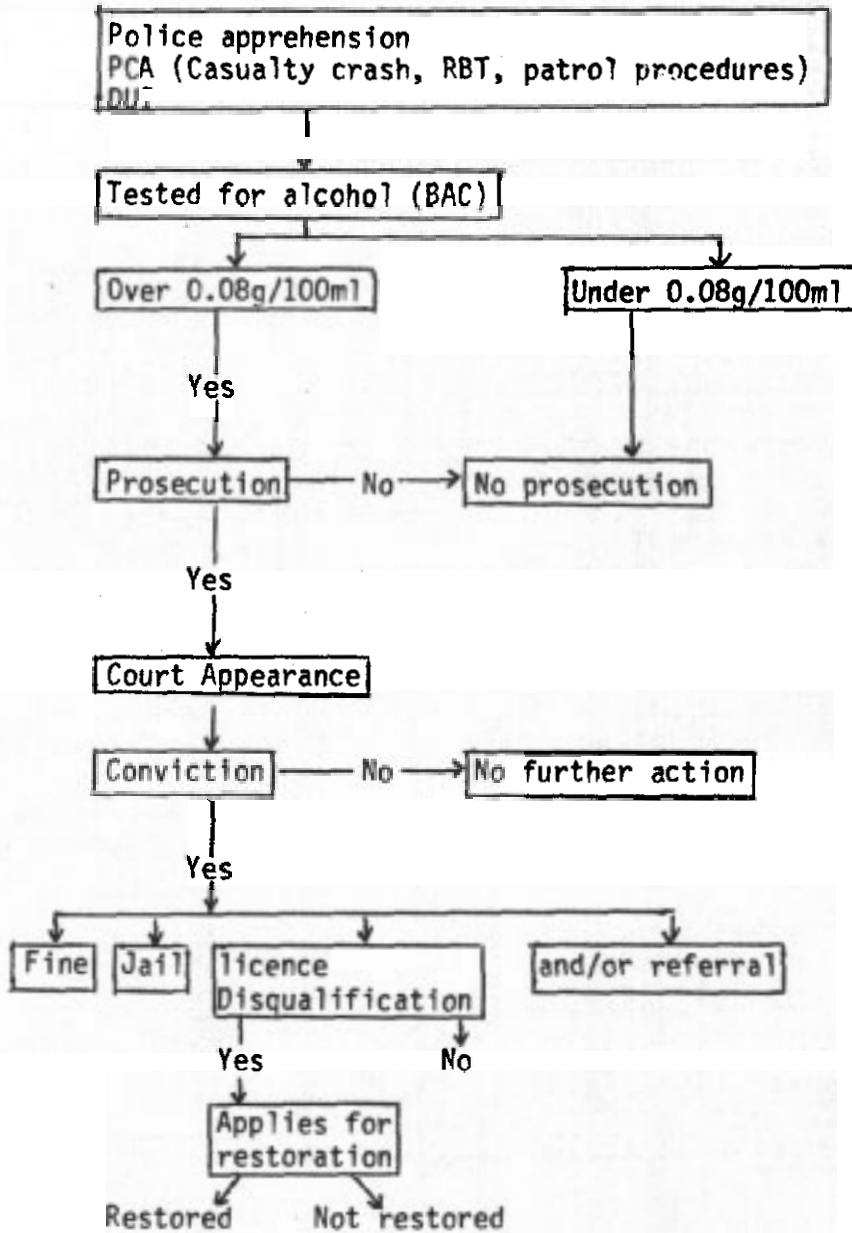
5.4 N.T. - Treatment of Drink-Drivers

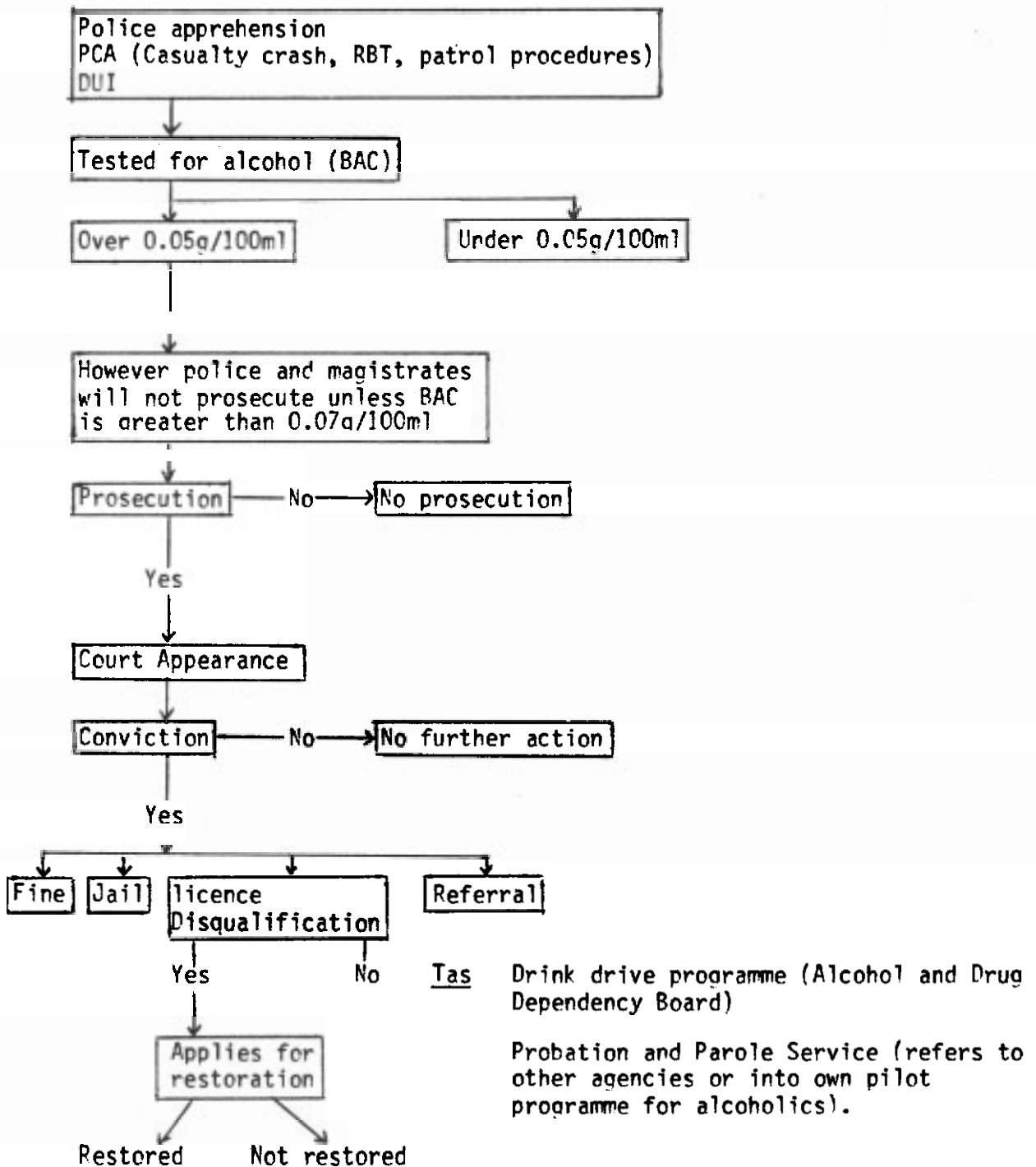
5.5 Western Australia - Treatment of Drink Drivers

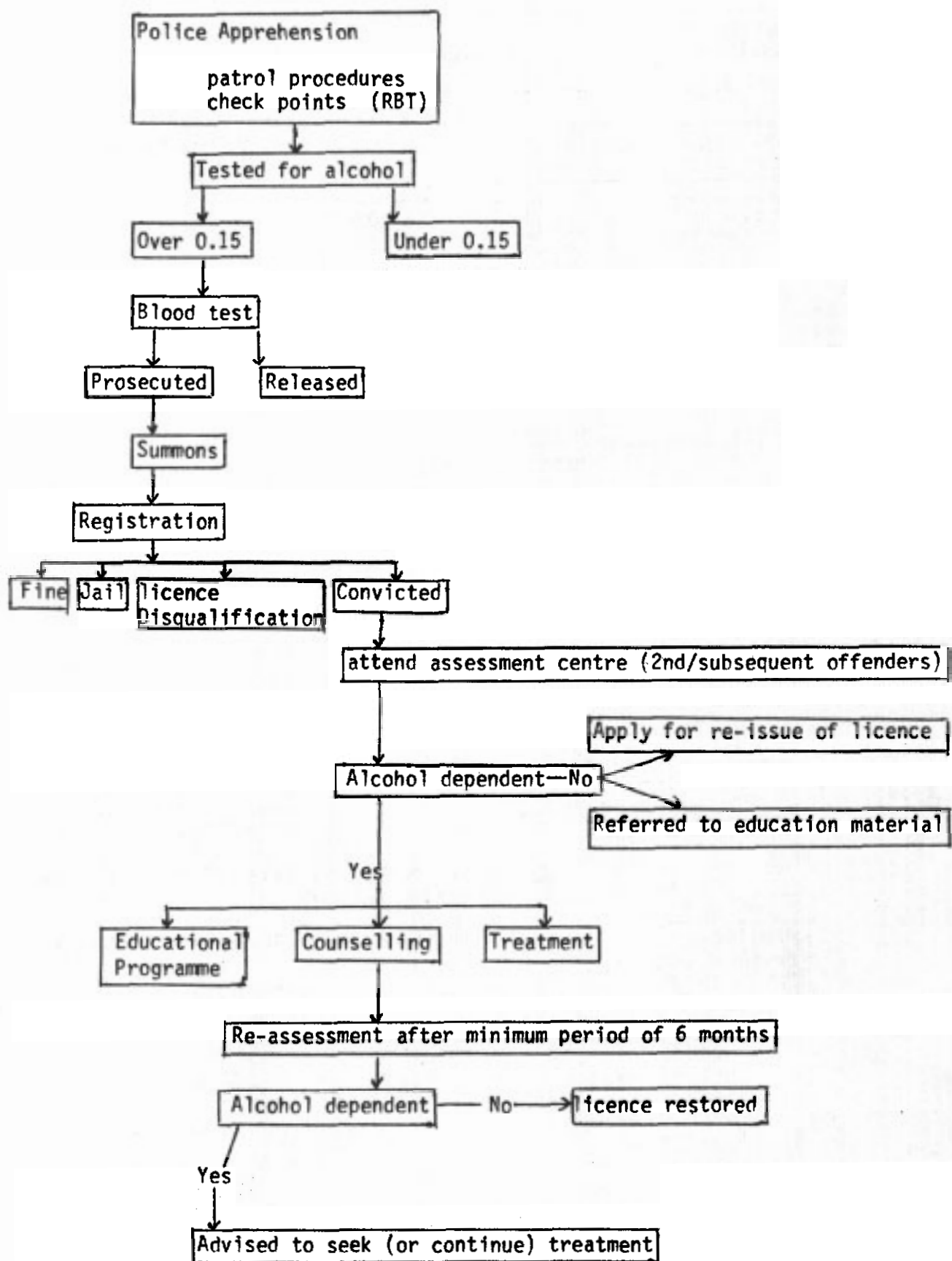


5.6 South Australia - Treatment of Drink-Drivers



5.7 A.C.T.

5.8 Tasmania

5.9 New Zealand - Treatment of Drink Drivers

Appendix Six: Methodological criteria for the evaluation of drink driver rehabilitation programmes.

Appendix Six is a review of the experimental studies evaluating the effectiveness of drink-driver rehabilitation programmes. The Appendix contains four sections.

6.1 The method of selection of empirical studies for the literature review.

6.2 The criteria for judging the methodology of drink-driver rehabilitation evaluation studies.

6.3 Summary of results of the methodological assessment of drink-driver rehabilitation programmes.

6.3.1 General overview of findings

6.3.2 Tabulation of results

6.4 Bibliography of experimental studies evaluating drink-driver rehabilitation programmes.

6.1 The method of selection of empirical studies for the literature review.

The method of conducting the literature review for this report is described in Appendix 8, Section 8.12.

The papers that were included in this review were those studies which made an evaluation of a drink-driver rehabilitation programme and which provided empirical data. Overall, the literature review identified 50 empirical studies and these are listed in Section 6.4. Rehabilitation programmes which were not evaluated empirically were not included in this category. A number of papers provided descriptive information only about particular rehabilitation programmes - these articles were not defined as empirical studies but are listed in Appendix 7., Section 7.21 b.

6.2 The criteria for judging the methodology of drink-driver rehabilitation evaluation studies.

In order to evaluate the existing literature on the effectiveness of rehabilitation programmes, studies were compared against a series of methodological criteria. The criteria selected were based on basic epidemiological concepts (Lilienfeld and Lilienfeld, 1980; Cochran, 1977; Schlesselman, 1982; Hicks, 1973) and the use of control groups, included: method of data collection, control group, selection allocation method, sample size, gender of subjects, age of subjects, outcome factors, length of follow-up and contact rate at follow-up.

Each experimental study identified by the literature review was assessed against the variables described below. In Section 6.4, each study is followed by the codes indicating the relevant category for each of the methodological criteria.

Country validated: Country validated refers to the country in which the evaluation study was conducted. Since the present review was particularly concerned with Australasian data, the following categories were used:

1. Australia
2. New Zealand

3. Other.

Method of data collection: Method of data collection refers to whether the evaluation study was retrospective or prospective in its method of obtaining data for analysis. The following categories were used:

1. Retrospective: studies in which the investigator obtained research data by extracting the information from records of events which had already occurred when the study had started were included in this category.
2. Prospective: studies in which the investigator made plans for data collection before intervention occurred were included in this category.
- ?. Not clearly stated: studies which did not clearly state their method of data collection were included in this category.

Control group: Control group refers to whether or not a control group was used by the evaluator. The inclusion of a control group permits conclusions to be drawn about the effectiveness of the intervention programme. The following categories were used:

1. Control group: studies included in this category used both experimental (treatment) and control groups enabling the investigator to control for factors aside from intervention.
2. No control group: studies included in this category did not use a control group in the evaluation procedures.

Selection/Allocation method: Selection/allocation method refers to the process of selecting the sample of subjects from all subjects. The following categories were used:

1. Randomized clinical control: studies included in this category randomly allocated subjects to experimental and control groups.
2. Matched control: studies included in this category selected at least two groups of subjects which were matched as closely as possible on a variety of variables such as age, sex, socio-economic status, previous driving record and

so on.

3. **Cluster sampling:** studies included in this category selected the study sample as a unit or group of subjects (e.g. all convicted drink-drivers who completed a Driver Education Course). That is, control or experimental groups were not randomly allocated or matched in any sense.

? Studies included in this category did not clearly state or failed to report the selection/allocation method used in the study.

Sample size: Sample size refers to the size of the overall sample studied. The following categories were used:

1. <50
2. 50-99
3. 100-199
4. 200-499
5. 500-999
6. 1,000-2,000
7. >2,000
- ? Not clearly stated.

Gender of subjects: Gender of subjects refers to the sex of the subjects in the study. The following categories were used:

- M:(n). This referred to the number of males in the total sample.
 F:(n). This referred to the number of females in the total sample.
 ? This was used when the information was not provided.

Age: Refers to the average age of the subjects in years.
 ? This category was used when the information was not provided.

Outcome factors: outcome factors refers to the measures of the dependent variables used to assess intervention effectiveness. The following outcome factors were used in the reviewed studies and were defined in the review as follows:

1. **Knowledge about alcohol/drink-driving:** studies which used self-report measures assessing knowledge of the use of alcohol and its effects, especially

on drink-driving were included in this category.

2. Attitudes about alcohol/drink-driving: studies which used self-report measures assessing attitudes about the use of alcohol and its effects, especially in relation to drink-driving were included in this category.

3. Drinking behaviour: studies which used either self-report or BAC estimates of an individual's current drinking behaviour were included in this category.

4. Alcohol-related problems: studies which used measures to assess problems associated with alcohol use, including tests for diagnosing alcoholism were included in this category. Measures were usually self-report questionnaires or semi-structured interviews. The most commonly used were the Mortimer Filkins test, the Michigan Alcoholism Screening Test (M.A.S.T.), ALCADD and CAGE.

5. Traffic convictions excluding drink driving: studies which used records of traffic convictions which were not alcohol-related are included in this category (e.g. speeding offences, reckless driving, licence point deductions etc.).

6. Drink-driving convictions: studies which use records of drink-drive offences committed by a drink-drive offender after his/her drink-drive conviction (i.e. drink-drive recidivism) are included in this category.

7. Cost-effectiveness: studies which measure the cost of rehabilitation programmes in relation to its social benefits are included in this category.

8. Epidemiological: studies which use measures of road traffic mortality and morbidity are included in this category. This includes direct measures of the total number of road deaths and crashes as well as indirect measures such as the distribution of BAC levels in drivers killed in crashes, distribution of BAC in this population at risk and the number of night time crashes.

9. Life activities: studies which assess an individual's general life functioning are included in this category. This includes measures of psychiatric illness, interpersonal relationships, and physical health.

10. Other: outcome factors which were not included in any one of the nine

categories outlined above were placed in this category.

Length of follow-up: Length of follow-up refers to the time elapsing between the end of intervention and the collection of outcome measures. The following categories were used:

1. <6 months
 2. 6-12 months
 3. 13-24 months
 4. >24 months
- ? This category was used when information about the length of follow-up was not provided.

Contact rate at follow-up: Refers to the proportion of subjects initially enrolled in the study who were able to be contacted at the time of follow-up (expressed as a percentage).

? This category was used when information about the attrition rate was not provided.

Intervention modality: Intervention modality refers to the type of drink-driver rehabilitation programme being evaluated in the study. The following categories were used:

1. Behavioural: intervention programmes which attempted to eliminate or modify drink-driving behaviour through the use of learning theory principles were included in this category. This included skill-based intervention programmes which attempted to teach drink-drivers skills which could be used to prevent drinking and driving.
2. Drug: intervention programmes which use drug therapy were included in this category.
3. Health Education: intervention programmes which aimed at changing the behaviour of drink-drivers by providing them with information about drinking and driving and the potential consequences associated with such behaviour were included in this category.

4. Therapeutic: intervention programmes which adopted a primarily psychotherapeutic orientation to treatment, arguing that drink-driving results from some intra-psychic problem within the individual were included in this category.

5. Coercive: interventions which use legal sanctions imposed on convicted drink-drivers such as fines, jail, licence suspension and parole were included in this category.

? this category was used when information about the intervention modality was not provided.

Method of referral to the programme: method of referral to the programme refers to the way in which programme participants are recruited into the rehabilitation programme. The following categories were used:

1. Compulsory: programmes which coerced individuals to attend the programme were included in this category. These programmes used the legal system to coerce attendance (e.g. by making driver licence return contingent upon participation in the course).

2. Voluntary: programmes which allowed individuals to choose whether they would attend a rehabilitation programme were included in this category.

? this category was used when information about the method of referral was not provided.

6.3 Summary of results of the methodological assessment of drink-driver rehabilitation programmes.

Of the 50 experimental studies identified in the literature review it was possible to obtain only 36. These studies were examined and judged using the methodological criteria described in Section 6.2. A list of the references for these studies can be found in Section 6.4. The entry for each reference contains information about the judgements that were made for each study in regard to the methodological criteria.

Section 6.3 presents an overall summary of the results of the

methodological assessment.

6.3.1 General overview of findings

There have been very few evaluations of drink-drive rehabilitation programmes. From the literature review a total of only 50 experimental studies were identified. There have been even fewer evaluations in Australia and New Zealand. Of the 36 studies reviewed in this report only 4 (11.1%) were from Australia and only 2 (5.6%) were from New Zealand (see Table 1).

An examination of the results indicates that there are relatively few methodologically sound evaluative studies. Twenty four of the 36 studies (66.7%) were prospective while 8 (22.2%) were retrospective (see Table 2). Of these studies 25 (69.4%) used a control group while 11 studies (30.6%) failed to use a control group (see Table 3).

Large sample sizes were relatively common in the studies reviewed. Twenty nine (80.5%) of the studies had an overall sample size that was greater than 100. Seventeen (47.2%) of the studies had a sample size greater than 500 and eight studies (22.2%) had a sample with more than 2,000 subjects (see Table 4). Of the 34 studies which used control groups, treatment group sample sizes were, again, relatively large. Eight studies (22.2%) had treatment groups with samples less than 100, however the majority of studies had adequate sample sizes - 24 studies (13.8%) had samples greater than 500 and 5 studies (14.7%) had samples greater than 2,000 (see Table 5).

By far the most common method of referral of subjects to an intervention programme was compulsory referral to a rehabilitation programme. Twenty four (66.7%) of the studies used compulsory referral while only nine studies (25%) allowed subjects to decide whether they would participate in the programme (see Table 12). The majority of subjects were selected for study by cluster sampling (23 studies or 63.9% of the 36 studies reviewed). Only 9 studies (25%) used a randomized clinical trial. Four studies (11.1%) attempted to control for differences between the experimental and control sample populations by using matched controls (see Table 8).

The most common intervention approach used was a health education one (67%) while a therapeutic approach was the next most common approach (42%) which was

then followed by a coercive approach (11%). A behavioural approach (5%), and the use of drugs (3%) were the least favoured modes of intervention (see Table 13).

It is not surprising, then, that the most widely used outcome measure in the studies was recidivism or subsequent drink-drive convictions (52.8%) followed by traffic convictions excluding drink-driving (36.1%). Drinking behaviour was the next most frequently used outcome measure (25%), followed by alcohol-related problems (19.4%), knowledge about alcohol/drink-driving (16.7%), attitudes about drink-driving (13.9%), measures of life activities (11.1%) and traffic morbidity/mortality (5.6%) with the least frequently used outcome measure being cost-effectiveness (2.8%) (see Table 9).

Of the 36 studies reviewed only 11 (30.6%) used a follow-up period that was greater than 24 months. Seventeen studies (47.2%) used a follow-up period of less than 12 months (see Table 10). Outcome success is inversely related to length of follow-up. For example three studies found a significant improvement in drink-driver recidivism using a follow-up period of 6 to 24 months, however, only one study did so when using a follow-up period of more than 24 months.

All studies reviewed found a positive effect upon knowledge about alcohol/drink-driving and all but one (Vingilis et al, 1981) had a positive effect upon attitudes about drink-driving. Unfortunately the results are difficult to interpret since the majority failed to include a control group for example, Malfetti (1975) used a quasi-experimental design to evaluate the effectiveness of the DWI Phoenix education programme for convicted drink-drivers. Pre- and post-test measures of knowledge and attitude about drink-driving showed a significant improvement in participant's scores however a control group was not used. Health education-based programmes, appear to be less effective in reducing recidivism. Of the studies reviewed in this report that used a health education approach, 10 used recidivism as an outcome measure. However only 3 of these studies (Neff and Landrum, 1983; Strachan, 1973; Malfetti, 1975) found a significant improvement in recidivism rates in the treatment group following completion of an education course. In contrast, 6 studies (Department of the Attorney General and NSW Bureau of Crime Statistics and Research, 1976; Eddy, 1976; Michelson, 1979; Holden, 1983; Northern Metropolitan Region of the NSW Health Commission, 1981; Vingilis et al, 1981) reported negative results when evaluating the effectiveness of

education programmes on recidivism.

Therapeutic/intervention approaches similarly appear to be ineffective in reducing recidivism. Five studies (Fine et al, 1977; Hagen et al, 1979; Nichols et al, 1979; Preusser et al, 1976; Sadler and Perrine, 1984) failed to find a significant improvement in recidivism relative to a control group after treatment.

Very few studies evaluated effectiveness in terms of traffic mortality or morbidity. The only study to do this was Amrick and Marshall (1984) which used a therapeutic approach to rehabilitation. However this study used a quasi-experimental design and while it did use controls it failed to report on whether the differences reported were statistically significant.

In conclusion, there have been few evaluative studies of drink-drive rehabilitation programmes which are methodologically adequate. Only 3 studies (Holden, 1983; Nichols et al, 1979; and Vingilis et al, 1981) were prospective randomized controlled trials with sufficient sample sizes, follow-up periods longer than 2 years and adequately specified outcome measures.

6.3.2 Tabulation of Results

The following tables summarize the information for each methodological criterion using frequency distributions. The tables also list the relevant studies (using numerical code) for each of the variables being examined. The numerical code for each study is listed in Section 6.4.

Table 1. Country in which the programme was evaluated.

Country	Frequency	Percentage	Studies
Australia	4	11.1	7,20,21,25
New Zealand	2	5.6	5,6
Other	30	83.3	1-4,8-19,22-24,24-36
Total	36	100.0	

Table 2. Method of data collection.

Type	Frequency	Percentage	Studies
Retrospective	8	22.2	2,3,7,8,25,28,32,36
Prospective	24	66.7	1,5,6,9-12,14,15,17-24,26,27, 29,30,33-35
Not clearly stated	4	11.1	4,13,16,21
Total	36	100.0	

Table 3. The use of control groups

Was a control group used in this study?	Frequency	Percentage	Studies
Yes	25	69.4	1,6,7,9,10-13,16-20,24-30, 32-36
No	11	30.6	2-5,8,14,15,21-23,31
Total	36	100.0	

Table 4. The size of the total sample used in the studies

Sample Size (N)	Frequency	Percentage	Studies
<50	2	5.6	5,22
50-99	4	11.1	4,6,17,23
100-199	4	11.1	8,9,29,35
200-499	8	22.2	2,3,14,21,25,31,33,34
500-999	4	11.1	12,15,20,30
1,000-2,000	5	13.9	7,13,16,32,36
>2,000	8	2.8	10,11,18,19,24,26-28
Not stated	1	2.8	1
Total	36	100.0	

Table 5. The size of the sample used in the experimental or intervention group

This table includes all studies which report on the size of the experimental group.

Sample Size	Frequency	Percentage	Studies
< 50	4	11.1	6,5,17,22
50-99	4	11.1	4,9,23,35
100-199	1	2.8	8
200-499	11	30.6	2,3,7,14,18,20,21,25,30,31,33
500-999	6	16.7	11-13,16,32,36
1,000-2,000	1	2.8	27
> 2,000	5	13.9	10,19,24,26,28
Not stated	4	11.1	1,15,29,34
Total	36	100.0	

Table 6. Percentage of males studied in the evaluative studies

Percentage of males (%)	Frequency	Percentage	Studies
100	10	27.8	2,3,5,6,9,21-23,31,34
75-99.9	7	19.4	4,12,16,20,29,33,35
50-75	0	0	
< 50	0	0	
Not stated	19	52.8	1,7,8,10,11,13-15,17-19,24-28 30,32,36
Total	36	100	

Table 7. Age of Subjects

Average Age ¹	Frequency	Percentage	Studies
> 50	0	0	
40-49	3	8.3	22,30,31
30-39	5	13.9	3,6,12,34,35
20-29	0	0	
< 20	0	0	
Not stated	28	77.8	1,2,4,5,7-11,13-21,23-29,32,33,36
Total	36	100	

1. The average age across all studies was 37.3 years.

Table 8. Method of selection of the study sample

Method	Frequency	Percentage	Studies
Randomized control	9	25	5,6,18,19,24,29,33-35
Matched control	4	11.1	20,25,26,30
Cluster sampling	23	63.9	1-4,7-17,21-23,27,28,31,32,36
Information not provided	0	0.0	
Total	36	100.0	

Table 9. The outcome factors that were evaluated in the studies

Outcome Factor	Frequency	Proportion of the 36 studies examining the outcome factor (expressed as a percentage)	Studies
knowledge	5	16.7	13-15,20,21,35
attitudes	5	13.9	13-15,20,35
drinking behaviour	9	25	2-4,9,19,20,29,33,34
alcohol-related problems	7	19.4	5,9,19,22,29,33,34
traffic convictions (excluding d/d)	13	36.1	10,11,13,16,17,19,24,26-28 30,35,36
drink-driving convictions	19	52.8	5,7,9-11,13,16,17-20,24-28, 32,35,36
cost effectiveness	1	2.8	1
epidemiological	2	5.6	1,8
life activities	4	11.1	9,19,33,34
other	7	19.4	2,5,8,12,23,31,34
Total	74		

NB. Since most studies used more than one outcome variable, this table does not total 36.

Table 10. Length of Follow-up

Duration (months)	Frequency	Percentage	Studies
< 6	11	30.6	3,5,7,9,12,15,21-24,29
6-12	6	16.7	6,8,10,16,31,33
13-24	7	19.4	1,2,18,25,32,34,36
> 24	11	30.6	4,11,13,17,19,20,26-28, 30,35
Not Stated	1	2.7	14
Total	36	100.0	

Table 11. Contact rate at Follow-up (%)

Percentage of subjects contacted at follow-up 1	Frequency	Percentage	Studies
100	9	25	5,11,15-17,21-23,36
80-99	6	16.7	4,6,12,24,31,35
60-79	5	13.9	9,18,19,33,34
50-59	0	0	
< 50	0	0	
Not stated	16	44.4	1-3,7,8,10,13,14,20,25-30,32
Total	36	100	

1. The average contact rate across all studies was 88.7%.

Table 12. Method of referral to programme

Method	Frequency	Percentage	Studies
Compulsory	24	66.7	1,2,4-6,8,9,11,13,18-23, 25-28,30-32,35,36
Voluntary	9	25.0	7,10,12,14-16,24,29,34
Information not provided	3	8.3	3,17,33
Total	36	100.0	

Table 13. Type of Intervention

Type	Frequency	Studies
Behavioural	2	6,16
Drug	1	29
Education	24	3,5-8,11-22,25,29,32-36
Therapeutic	15	1-4,7,9,10,18,19,23,24, 26,31,33,34
Coercive	4	1,11,26,28
Not Stated	4	27,30
Total	50	

NB. Since most studies used a combination of intervention approaches this table does not total 26.

6.4 Bibliography of Experimental Studies Evaluating Drink-Driver Rehabilitation Programmes

This bibliography contains the 36 experimental studies located by the authors which evaluated the effectiveness of drink driver rehabilitation programmes. Accompanying each reference is an abstract and the methodological criteria by which the studies were judged (see Section 6.3). For a description of the codes used see Section 6.2

Following these references are the remaining 14 references on drink driver rehabilitation programmes which could not be located.

Reference Code

1. Amrick, D.R. and Marshall, P.B. (1984) An evaluation of the Bonneville County DUI Accident Prevention Program (Project Safety). Traffic Safety Evaluation Research Review, 3, 3, 7-21.

Evaluates the first 15 months of Project Safety, an integrated drink driver crash prevention programme. A before-after analysis, which included 2 comparison locations, used an alcohol proxy measure (night time fatal and injury crashes and an estimate of the cost savings in crash reduction. A significant reduction in the number of crashes was found in the treatment area but not in the comparison countries. Estimates at the cost savings in crash reduction due to Project Safety were made.

Country validated:	3
Method of data collection:	2
Experimental design:	3
Sample size:	?
Gender of subjects:	?
Age:	?
Selection/allocation:	3
Outcome factors:	7, 8
Length of follow-up:	3
Contact rate at follow-up:	?
Intervention modality:	4, 6
Method of referral to programme:	1

2. Argeriou, M. and Manohar, V. (1978) Relative effectiveness of nonalcoholics and recovered alcoholics as counsellors. Journal of Studies on Alcohol, 39, 5, 793-799.

Positive changes in drinking behaviour occurred significantly more often in young patients counselled by recovered alcoholics than in young patients counselled by nonalcoholics.

Country validated:	3
Method of data collection:	1
Experimental design:	3
Sample size:	4
Gender of subjects:	M273
Age:	?
Selection/allocation:	3
Outcome factors:	3, 10
Length of follow-up:	3
Contact rate at follow-up:	?
Intervention modality:	4
Method of referral to programme:	1

3. Argeriou, M. and Manohar, V. (1977) Treating the problem drinking driver: some notes on the time required to achieve impact. British Journal of Addiction, 72, 331-338.

Examines the experience of 277 problem drinking males in treatment. The data support the contention that 6 months involvement in a programme is sufficient to achieve impact on problem-drinkers but not on severe problem-drinkers.

Country validated:	3
Method of data collection:	1
Experimental design:	2
Sample size:	4
Gender of subjects:	M277
Age:	35
Selection/allocation:	3
Outcome factors:	3
Length of follow-up:	1
Contact rate at follow-up:	?
Intervention modality:	3, 4
Method of referral to programme:	?

4. Ben-Aire, D., George, G.C.W. and Hirschowitz, J. (1983) Compulsory treatment of 50 alcoholic drunken drivers. South African Medical Journal, 63, 241-242.

Evaluates the efficacy of compulsory treatment of 50 alcoholic drink-drivers. Overall, subjects showed improvement in drinking behaviour.

Country validated:	3
Method of data collection:	?
Experimental design:	2
Sample size:	2
Gender of subjects:	M49, F1
Age:	?
Selection/allocation:	3
Outcome factors:	3
Length of follow-up:	4
Contact rate at follow-up:	84%
Intervention modality:	4
Method of referral to programme:	1

5. Brown, R.A. (1979) Participant evaluation of two alcohol education courses. Perceptual and Motor Skills, 48, 577-578.

Reports on an evaluation by participants of two types of alcohol education courses used with drink-drivers. Both courses were evaluated positively by participants but the controlled drinking course appeared to be of greater personal relevance to participants than the traditional educational course.

Country validated:	2
Method of data collection:	2
Experimental design:	2
Sample size:	1
Gender of subjects:	M40
Age:	?
Selection/allocation:	3
Outcome factors:	10
Length of follow-up:	1
Contact rate at follow-up:	100%
Intervention modality:	3
Method of referral to programme:	1

6. Brown, R.A. (1980) Conventional education and controlled drinking education courses with convicted drunken drivers. Behavior Therapy, 11, 632-642.

Convicted drink-drivers were randomly assigned to either a conventional drink-driver education course, an education course on controlled drinking or a no-education control condition. Drinking disposition and psychosocial adjustment were assessed prior to the course and at 3 month intervals during a 12-month follow-up period. Drivers in the 2 education conditions improved in psychosocial adjustment, but only those given controlled drinking training showed any significant reduction in the number of days they engaged in uncontrolled drinking.

Country validated:	2
Method of data collection:	2
Experimental design:	1
Sample size:	2
Gender of subjects:	M60
Age:	31.57
Selection/allocation:	1
Outcome factors:	3, 4
Length of follow-up:	2
Contact rate at follow-up:	88.3%
Intervention modality:	1,3
Method of referral to programme:	1

7. Department of the Attorney General and N.S.W. Bureau of Crime Statistics and Research. (1976) The Sydney Drink-driver Rehabilitation Programme: an Evaluation of the Pilot Scheme, pp.87.

Evaluates the drink-driver rehabilitation programmes in the Sydney region during their pilot phase in 1976. Offenders who undertook a driver education programme were compared with eligible offenders who declined to enter the programme, offenders not eligible for the programme and a control group. Participants actually had the worst reconviction rate for drink-driving.

Country validated:	1
Method of data collection:	1
Experimental design:	1
Sample size:	6
Gender of subjects:	?
Age:	?
Selection/allocation:	3
Outcome factors:	6
Length of follow-up:	1
Contact rate at follow-up:	?
Intervention modality:	3, 4
Method of referral to programme:	2

8. Eddy, J. (1976) A DWI educational program. Journal of Drug Education, 6, 2, 137-139.

Provides a description and some of the results of an educational programme for drink-drivers. 227 drink-drivers were taken in the first year of the course; 20% had prior DWI arrests. Attitudinal change and drink-drive recidivism were examined by conducting a one-year record check. The author reports that students exhibited good attitudinal change. Out of the first 139 subjects, 3 were recidivists within one year of completion of the course; 27 of the 46 subjects with prior drink-drive arrests were checked and 1 has been re-arrested for drink-driving.

Country validated:	3
Method of data collection:	1
Experimental design:	2
Sample size:	3
Gender of subjects:	?
Age:	?
Selection/allocation:	3
Outcome factors:	6, 10
Length of follow-up:	2
Contact rate at follow-up:	?
Intervention modality:	3
Method of referral to programme:	1

9. Fine, E.W., Steer, R.A. and Scoles, P.E. (1977) Evaluation of a treatment program for drunk driving offenders. Currents in Alcoholism, 6, 121-135.

Evaluates the Alcohol Highway Safety Program which provided 6 months of alcoholism counselling by comparing a treatment and control group on measures of alcohol behaviours, driving characteristics and psychopathology. While decreases in 11 of these measures were found, there were no significant differences between groups suggesting the changes may be attributable to the passage of time.

Country validated:	3
Method of data collection:	2
Experimental design:	1
Sample size:	3
Gender of subjects:	M114
Age:	?
Selection/allocation:	3
Outcome factors:	3, 4, 6, 9
Length of follow-up:	1
Contact rate at follow-up:	66%
Intervention modality:	2, 4
Method of referral to programme:	1

10. Hagen, R.E., Williams, R.L. and McConnell, E.J. (1979) The traffic safety impact of alcohol abuse treatment as an alternative to mandated licensing controls. Accident Analysis and Prevention, 11, 4, 275-291.

Evaluates the effectiveness of a 12-month alcohol abuse treatment programme for multiple driving-under-the-influence offenders upon traffic safety (crashes, personal injury, fatalities etc.). Results indicate that the programme demonstrated no clear advantages over mandatory licencing controls.

Country validated:	3
Method of data collection:	2
Experimental design:	1
Sample size:	7
Gender of subjects:	?
Age:	?
Selection/allocation:	3
Outcome factors:	5, 6
Length of follow-up:	2
Contact rate at follow-up:	?
Intervention modality:	4
Method of referral to programme:	2

11. Holden, R.T. (1983) Rehabilitative sanctions for drunk-driving: an experimental evaluation. Journal of Research in Crime and Delinquency, 20, 1, 55-72.

Evaluates the effectiveness of various treatments (probation supervision, education/therapy, supervision plus education/therapy, control) in reducing rearrests for drink-driving or for other misdemeanours and felonies of convicted drink-drivers. Treatment programmes were not found to be generally effective.

Country validated:	3
Method of data collection:	2
Experimental design:	1
Sample size:	7
Gender of subjects:	?
Age:	?
Selection/allocation:	3
Outcome factors:	5, 6
Length of follow-up:	4
Contact rate at follow-up:	100%
Intervention modality:	3, 5
Method of referral to programme:	1

12. Kern, J.C., Schmelter, W.R. and Paul, S.R. (1977) Drinking drivers who complete and drop out of an alcohol education program. Journal of Studies on Alcohol, 38, 89-95.

Of 855 convicted drink-drivers who participated in an alcohol education programme, those who needed the programme the most (the young and those with high blood alcohol levels at the time of arrest) were most likely to drop out of the programme.

Country validated:	3
Method of data collection:	2
Experimental design:	1
Sample size:	5
Gender of subjects:	M778 - F77
Age:	36.5
Selection/allocation:	3
Outcome factors:	10
Length of follow-up:	1
Contact rate at follow-up:	97%
Intervention modality:	3
Method of referral to programme:	2

13. Malfetti, J.L. (1975) Reeducation and rehabilitation of the drunken driver, Journal of Drug Issues, 255-269.

Evaluate the DWI Phoenix education programme for convicted drink drivers. Pre- and post-test measures of knowledge and attitude about alcohol and drink-driving showed a significant improvement in participants' scores. Significant differences in favour of the experimental group on reconvictions was found when comparing this group with a matched control group.

Country validated:	3
Method of data collection:	?
Experimental design:	1
Sample size:	6
Gender of subjects:	?
Age:	?
Selection/allocation:	3
Outcome factors:	1, 2, 5, 6
Length of follow-up:	4
Contact rate at follow-up:	?
Intervention modality:	3
Method of referral to programme:	1

14. Malfetti, J.L. and Simon, K.J. (1974) Evaluation of a program to rehabilitate drunken drivers. Traffic Quarterly, 28, 49-59.

Evaluates the effectiveness of the "DWI-Counter Attack" education programme in rehabilitating drink-drivers. 335 subjects were administered pre- and post-course testing on two main measures - knowledge about drink-driving and attitudes about drink-driving. Both measures were found to be significantly improved following the course.

Country validated:	3
Method of data collection:	2
Experimental design:	2
Sample size:	4
Gender of subjects:	?
Age:	?
Selection/allocation:	3
Outcome factors:	1, 2
Length of follow-up:	5
Contact rate at follow-up:	?
Intervention modality:	3
Method of referral to programme:	2

15. Malfetti, J.L. and Simon, K.J. (1975) A comparison of changes in knowledge and attitude between problem drinkers and non-problem drinkers following a re-education program. In S. Israelstam and S. Lambert (Eds), Alcohol, Drugs and Traffic Safety, Proceedings of the Sixth International Conference on Alcohol, Drugs and Traffic Safety. Toronto: Addiction Research Foundation, pp.737-748.

Evaluates the effectiveness of the "DWI Counterattack" education programme for convicted drink-drivers. A pre- and post-test design was used to evaluate the effectiveness of the course in changing knowledge and attitude about drink-driving. Comparisons were made between problem-drinkers and non-problem drinkers. Both groups showed a significant increase in knowledge but results suggest that the problem-drinking group were more resistant to change than the non-problem drinkers.

Country validated:	3
Method of data collection:	2
Experimental design:	2
Sample size:	5
Gender of subjects:	?
Age:	?
Selection/allocation:	3
Outcome factors:	1, 2
Length of follow-up:	1
Contact rate at follow-up:	100%
Intervention modality:	3
Method of referral to programme:	2

16. McGuire, F.L. (1978) The effectiveness of a treatment program for the alcohol-involved driver. American Journal of Drug and Alcohol Abuse, 5, 4, 517-525.

Utilizes a quasi-experimental design to evaluate the effectiveness of a "Don't drink-and-drive programme", comparing 876 convicted drivers with 802 untreated drivers over a one-year period. Significant differences were found on measures of subsequent driving behaviour.

Country validated:	3
Method of data collection:	?
Experimental design:	1
Sample size:	6
Gender of subjects:	M1,426 - F252
Age:	?
Selection/allocation:	3
Outcome factors:	5, 6
Length of follow-up:	2
Contact rate at follow-up:	100%
Intervention modality:	1, 3
Method of referral to programme:	2

17. Michelson, L. (1979) The effectiveness of an Alcohol Safety School in reducing recidivism of drinking drivers. Journal of Studies on Alcohol, 40, 11, 1060-1064.

Convicted drink-drivers who participated in a safe driving programme had higher rates of traffic violations, points and crashes than did controls.

Country validated:	3
Method of data collection:	2
Experimental design:	1
Sample size:	2
Gender of subjects:	?
Age:	?
Selection/allocation:	3
Outcome factors:	5, 6
Length of follow-up:	4
Contact rate at follow-up:	100%
Intervention modality:	3
Method of referral to programme:	?

18. Neff, R.L. and Landrum, J.W. (1983) The life activities inventory as a countermeasure for driving-while-intoxicated. Journal of Studies on Alcohol, 44, 5, 755-769.

The simple administration of the Current Status section of the Life Activities Inventory appears to reduce drink-driving recidivism substantially and cost-effectively among "low-risk" drink-drivers.

Country validated:	3
Method of data collection:	2
Experimental design:	1
Sample size:	7
Gender of subjects:	?
Age:	?
Selection/allocation:	1
Outcome factors:	6
Length of follow-up:	3
Contact rate at follow-up:	67%
Intervention modality:	3, 4
Method of referral to programme:	1

19. Nichols, J.L., Ellingstad, V.S. and Struckman-Johnson, D.L. (1979) An experimental evaluation of the effectiveness of short-term education and rehabilitation programs for convicted drinking drivers. Currents in Alcoholism, 6, 157-178.

Examines the effect of rehabilitation programmes upon traffic safety, drinking behaviour, life status and personality adjustment, using a sample of moderate problem drink-drivers randomly allocated to treatment and control groups. Results show that programmes have few positive effects compared to controls.

Country validated:	3
Method of data collection:	2
Experimental design:	1
Sample size:	7
Gender of subjects:	?
Age:	?
Selection/allocation:	1
Outcome factors:	3, 4, 5, 6, 9
Length of follow-up:	4
Contact rate at follow-up:	62.4%
Intervention modality:	3, 4
Method of referral to programme:	1

20. Northern Metropolitan Region of the N.S.W. Health Commission. (1981) Evaluation of the initial stages of a Drink-Driver Diversion Program. Sydney: N.S.W. Health Commission.

Assesses the Chatswood drink-driver programme. The rate of recidivism between an experimental and control group found no significant differences. A pre-post knowledge and attitude questionnaire completed by the experimental group showed significant positive changes in attitudes and knowledge levels about drink-driving.

Country validated:	1
Method of data collection:	2
Experimental design:	1
Sample size:	5
Gender of subjects:	M930 F19
Age:	?
Selection/allocation:	2
Outcome factors:	1, 2, 3, 6
Length of follow-up:	4
Contact rate at follow-up:	?
Intervention modality:	3
Method of referral to programme:	1

21. Papandreou, N., Brooksbank, J.V. and McLaughlin, K.M. (1985) Alcohol and offending: a probation service's education programme. Australian and New Zealand Journal of Criminology, 18, 67-72.

Evaluates the effectiveness of Western Australia's Probation and Parole Alcohol Education Programme in developing within the participants an awareness of the effects that unwise drinking is having upon their lives. 320 subjects who attended the education course were administered a pre- and post-test questionnaire. Results indicated an increase in scores which was significant showing that the programme was helping in developing participant's awareness of alcohol and its effects.

Country validated:	1
Method of data collection:	2
Experimental design:	2
Sample size:	4
Gender of subjects:	M320
Age:	?
Selection/allocation:	3
Outcome factors:	1
Length of follow-up:	1
Contact rate at follow-up:	100%
Intervention modality:	3
Method of referral to programme:	1

22. Pennock, M. and Poudrier, M. (1978) Overcoming denial: changing the self-concepts of drunken drivers. Journal of Studies on Alcohol, 39, 5, 918-921.

An 11-week educational programme for persons convicted of drink-driving resulted in a more positive concept of alcoholics but no change in self-concept.

Country validated:	3
Method of data collection:	2
Experimental design:	2
Sample size:	1
Gender of subjects:	M43
Age:	42
Selection/allocation:	3
Outcome factors:	4
Length of follow-up:	1
Contact rate at follow-up:	100%
Intervention modality:	3
Method of referral to programme:	1

23. Pipes, R.B. and Walters, E. (1983) Changes in attributions made by individuals charged with driving while intoxicated. The Journal of Social Psychology, 121, 39-44.

Utilizes a pre- and post-test design to investigate some of the attributional processes used by individuals in their attempts to understand their arrest for driving while intoxicated after attending a "Driving Under the Influence" school. Results suggest that attributions to luck decreased as a result of the school.

Country validated:	3
Method of data collection:	2
Experimental design:	2
Sample size:	2
Gender of subjects:	M75
Age:	?
Selection/allocation:	3
Outcome factors:	10
Length of follow-up:	1
Contact rate at follow-up:	100%
Intervention modality:	4
Method of referral to programme:	1

24. Preusser, D.F., Ulmer, R.G. and Adams, J.R. (1976) Driver record evaluation of a drink driver rehabilitation program. Journal of Safety Research, 8, 3, 98-105.

Evaluates the effectiveness of the Nassau County Alcohol Safety Action Project's Driver Rehabilitation Programme in reducing the number of repeat convictions for alcohol-related driving offenses. Random allocation to the experimental and control groups showed no differences in terms of the number of recidivists.

Country validated:	3
Method of data collection:	2
Experimental design:	1
Sample size:	7
Gender of subjects:	?
Age:	?
Selection/allocation:	1
Outcome factors:	5, 6
Length of follow-up:	1
Contact rate at follow-up:	98%
Intervention modality:	4
Method of referral to programme:	2

25. Raymond, A. (1979) Youth and its problems IN I.R. Johnston Proceedings of the Seventh International Conference on alcohol, drugs and traffic safety, Melbourne, 23-28 January 1977. Canberra: Australian Government Publishing Service.

Evaluates the effectiveness of St. Vincent's Drivers' Course for drink-drivers. Results suggest that drink-drivers who attend the course have a lower rate of recidivism when compared with a group of breathalysed drivers. However no statistical tests have been used.

Country validated:	1
Method of data collection:	1
Experimental design:	1
Sample size:	4
Gender of subjects:	?
Age:	?
Selection/allocation:	3
Outcome factors:	6
Length of follow-up:	3
Contact rate at follow-up:	
Intervention modality:	3
Method of referral to programme:	1

26. Sadler, D.D. and Perrine, M.W. (1984) The long term traffic safety impact of a pilot alcohol abuse treatment as an alternative to license suspensions: Volume 2 of an evaluation of the California Drink Driving Countermeasure System: California: Department of Motor Vehicles.

Evaluates California's pilot treatment programme for convicted drink drivers in terms of traffic crash and conviction variables. A treatment group was compared with a "control" group of convicted drink-drivers who received licence suspensions by examining subsequent 4-year driving records. Results indicate that the hypothesized reduction in alcohol-related crashes among treatment participants did not occur.

Country validated:	3
Method of data collection:	2
Experimental design:	1
Sample size:	7
Gender of subjects:	?
Age:	?
Selection/allocation:	2
Outcome factors:	5, 6
Length of follow-up:	4
Contact rate at follow-up:	?
Intervention modality:	4, 5
Method of referral to programme:	1

27. Salzberg, P.M. and Klingberg, C.L. (1983) The effectiveness of deferred prosecution for driving while intoxicated. Journal of Studies on Alcohol, 44, 2, 299-308.

Drink-driving offenders who received deferred prosecution and concomittant alcoholism treatment were found to have significantly more postdeferral drink-driving violations than did a control group of drink-drive offenders who received normal judicial sanctions.

Country validated:	3
Method of data collection:	2
Experimental design:	1
Sample size:	7
Gender of subjects:	?
Age:	?
Selection/allocation:	3
Outcome factors:	5, 6
Length of follow-up:	4
Contact rate at follow-up:	?
Intervention modality:	?
Method of referral to programme:	1

28. Salzberg, P.M. and Paulsrude, S.P. (1984) An evaluation of Washington's driving-while-intoxicated law: effect on drunk-driving recidivism. Journal of Safety Research, 15, 117-124.

Evaluates the 1980 Washington Driving While Intoxicated law's impact upon subsequent driving behaviour of convicted drink-drivers. It was found that higher crash rates and drink-drive recidivism actually occurred under the new law than previously.

Country validated:	3
Method of data collection:	1
Experimental design:	1
Sample size:	7
Gender of subjects:	?
Age:	?
Selection/allocation:	3
Outcome factors:	5, 6
Length of follow-up:	4
Contact rate at follow-up:	?
Intervention modality:	5
Method of referral to programme:	1

29. Scoles, P. and Fine, E.W. (1977) Short-term effects of an educational program for drinking-drivers. Journal of Studies on Alcohol, 38, 3, 633-637.

In a study of convicted drink-drivers, mean scores on two measures of alcohol impairment decreased in subjects who completed an educational safe driving programme and in those who did not, suggesting a need for new approaches to drink-driving problems.

Country validated:	3
Method of data collection:	2
Experimental design:	1
Sample size:	3
Gender of subjects:	M114 - F8
Age:	?
Selection/allocation:	1
Outcome factors:	3, 4
Length of follow-up:	1
Contact rate at follow-up:	?
Intervention modality:	3
Method of referral to programme:	2

30. Seixas, F.A. and Hopson, A.L. (1975) The effect of rehabilitation on the driving behaviour of problem drinkers. In S. Israelstam and S. Lambert (Eds.), Alcohol, drugs and traffic safety, Proceedings of the Sixth International Conference on Alcohol, Drugs and Traffic Safety, 1974. Toronto: Addiction Research Foundation of Ontario, 723-736.

Evaluates the effectiveness of alcoholism treatment for a sample of drink drivers by comparing them with a matched control group on measures of driving behaviour. Data indicated a significant improvement in the driving behaviour of the treatment group.

Country validated:	3
Method of data collection:	2
Experimental design:	1
Sample size:	5
Gender of subjects:	?
Age:	44
Selection/allocation:	2
Outcome factors:	5
Length of follow-up:	4
Contact rate at follow-up:	?
Intervention modality:	?
Method of referral to programme:	1

31. Steer, R.A. (1983) Retention of driving-under-the-influence offenders in alcoholism treatment. Drug and Alcohol Dependence, 12, 1, 93-96.

Race, age, education, marital status, employment status, occupational level, prior treatment status and Global Severity Index scores of 244 men admitted to a treatment programme for alcoholism were analysed to see if these characteristics were related to completing treatment. Age, the Global Severity Index and current employment were found to be significant.

Country validated:	3
Method of data collection:	?
Experimental design:	2
Sample size:	4
Gender of subjects:	M240
Age:	44.11
Selection/allocation:	3
Outcome factors:	10
Length of follow-up:	2
Contact rate at follow-up:	86%
Intervention modality:	4
Method of referral to programme:	1

32. Strachan, J.G. (1973) The Alberta Impaired Drivers' Project: The Canadian Psychologist, 14, 1, 34-47.

Provides a detailed description of a drink-drive education programme for convicted drink-drivers in Alberta. A brief review of some of the data of the first 15 months of operation is presented showing that fewer course participants were found to be recidivists than convicted drivers who did not attend the course.

Country validated:	3
Method of data collection:	1
Experimental design:	1
Sample size:	6
Gender of subjects:	?
Age:	?
Selection/allocation:	3
Outcome factors:	6
Length of follow-up:	3
Contact rate at follow-up:	?
Intervention modality:	3
Method of referral to programme:	1

33. Swenson, P.R. and Clay, T.R. (1980) Effects of short-term rehabilitation on alcohol consumption and drinking-related behaviours: an eight month follow-up study of drunken drivers. The International Journal of the Addictions, 15, 6, 821-838.

Assesses the effects of short-term alcohol treatment intervention (prevention and therapy workshops) on subsequent drinking behaviour and drinking-related problems using 436 convicted drink-drivers. Results indicate that treatment had no more effect than minimal exposure in improving the quality of either social- or problem-drinkers' life situations.

Country validated:	3
Method of data collection:	2
Experimental design:	1
Sample size:	4
Gender of subjects:	M370 - F86
Age:	?
Selection/allocation:	1
Outcome factors:	3, 4, 9
Length of follow-up:	2
Contact rate at follow-up:	72%
Intervention modality:	3, 4
Method of referral to programme:	?

34. Swenson, P.R., Struckman-Johnson, D.L., Ellingstad, V.S., Clay, T.R. and Nichols, J.L. (1981) Results of a longitudinal evaluation of court-mandated DWI treatment programs in Phoenix, Arizona. Journal of Studies on Alcohol, 42, 7, 642-653.

Men in 3 types of short-term treatment programmes showed few differences in drinking patterns, drinking-related behaviour and social adjustment at 6 months, 12 months and 18 months after treatment.

Country validated:	3
Method of data collection:	2
Experimental design:	1
Sample size:	4
Gender of subjects:	M351
Age:	30.4
Selection/allocation:	1
Outcome factors:	3, 4, 9, 10
Length of follow-up:	3
Contact rate at follow-up:	62%
Intervention modality:	3, 4
Method of referral to programme:	2

35. Vingilis, E., Adlaf, E. and Chung, L. (1981) The Oshawa impaired drivers programme: an evaluation of rehabilitation programme. Canadian Journal of Criminology, 23, 93-102.

Evaluates the effectiveness of an education programme for convicted drink drivers in terms of its impact upon knowledge about drink-driving, attitudes about drink-driving and recidivism. Subjects were randomly assigned to either a treatment or control group. Results indicate that the programme had a positive effect on knowledge but not on attitude; the programme had no significant effect upon recidivist rates when compared with the control group.

Country validated:	3
Method of data collection:	2
Experimental design:	1
Sample size:	3
Gender of subjects:	M128 - F3
Age:	34.7
Selection/allocation:	1
Outcome factors:	5, 6, 1, 2
Length of follow-up:	4
Contact rate at follow-up:	92%
Intervention modality:	3
Method of referral to programme:	1

36. Zelhart, P.F. and Schurr, B.C. (1975) The Alberta impaired drivers' program: final report on evaluation. Ottawa: Ministry of Transport.

Evaluates the effectiveness of the Alberta Impaired Drivers' Programme. Findings indicated that no reduction in drink-drive recidivism resulted from the programme. However a general improvement in driving behaviour did occur in those drivers attending the programme compared to drink-drivers who did not attend the programme.

Country validated:	3
Method of data collection:	1
Experimental design:	3
Sample size:	6
Gender of subjects:	?
Age:	?
Selection/allocation:	3
Outcome factors:	5, 6
Length of follow-up:	3
Contact rate at follow-up:	100%
Intervention modality:	3
Method of referral to programme:	1

Appendix Seven: References on Drink Driver Rehabilitation Programmes Which Could Not Be Located

- Coghlan, G.R. (1979) The investigation of behavioral self-control theory and techniques in a short-term treatment of male alcohol abusers. Ph.D. Thesis, State University of New York at Albany.
- Holt, J.S. (1979) Differential effects of educational, moral judgement and combined educational and moral judgement treatments in the rehabilitation of persons convicted of driving while under the influence of alcohol. Ph.D. Thesis, University of Southern Mississippi.
- Howatt, W.J. (Jr.) (1981) Convicted drinking driver programs: a success in San Diego, Abstracts and Reviews in Alcohol and Driving, 2, 6, 2-6.
- Lacey, J.H., Stewart, J.R. and Popkin, C.L. (1983) The effect of alcohol safety schools on the driving behavior of DUI offenders. Paper presented at the 9th International Conference on Alcohol, Drugs and Traffic Safety, San Juan, Puerto Rico.
- Landrum, J., Miles, S., Neff, R., Pritchard, T., Roebuck, J., Wells-Parker, E. and Windham, G. (1982) Mississippi DUI probation follow-up project, (Report No. DOT HS-806-274). Washington, D.C.: National Highway Safety Administration.
- Lang, K.S. and Rainwater, J.A. (1982) Office of Traffic Safety - drinking driver program in Santa Clara county: a final evaluation report. Sacramento, C.A.: California Office of Traffic Safety.
- Poudrier, L.M., Mulligan, E. and Gray, R.H. (1975) Driving while impaired: description of an educational program for second and subsequent offenders as an alternative to incarceration. Toronto: Addiction Research Foundation.

Reis, R.E. (1980) First interim analysis of first offender treatment effectiveness. Comprehensive D.U.I. treatment project. Contract No. DOT HS-01414, N.H.T.S.A., County of Sacramento Health Dept., Sacramento, California.

____ (1982a) The traffic safety effectiveness of education programs for first offense drunk drivers. (Contract No. DOT HS-6-01414). Washington, D.C.: National Highway Traffic Safety Administration.

____ (1982b) The traffic safety effectiveness of educational counselling programs for multiple offense drunk drivers. (Contract No. DOT HS-6-01414). Washington, D.C.: National Highway Traffic Safety Administration.

Reis, R.E. and Davis, L.A. (1980) First interim analysis of multiple offender treatment effectiveness. Interim Report. County of Sacramento Health Dept., Sacramento, California, Contract No. DOT HS-6-01414, N.H.T.S.A, Washington, D.C.

Salzberg, P.M., Houser, R. and Klingberg, C.L. (1981) Licence revocation and alcoholism treatment programs for habitual traffic offenders. (Report No.49). Olympia, W.A.: Washington Department and Licensing.

Struckman-Johnson, D.L. and Ellingstad, V.S. (1979) Implementation of a large scale rehabilitation program evaluation IN Proceedings of the 1979 N.C.A. Alcohol and Traffic Safety Session, 30 April - 2 May, 1979. DOT HS-804-857. Washington, D.C.: U.S. Dept. of Transportation, N.H.T.S.A, pp.127-137.

Zelhart, P.E. (1973) The Alberta Impaired Drivers Programme: final report, phase I. Edmonton: University of Alberta.

APPENDIX 8 - BIBLIOGRAPHY OF THE LITERATURE RELATING TO DRINK-DRIVER
REHABILITATION PROGRAMMES AND A SELECTIVE BIBLIOGRAPHY OF DRINK-DRIVING
AND ITS COUNTERMEASURES.

CONTENTS

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8.1 OVERVIEW

Appendix 8 contains a bibliography of the literature currently available relating to drink-driver rehabilitation programmes and a selective bibliography of papers concerning drink-driving and its countermeasures. After describing the way in which the literature review was conducted, a rationale for the classification of the articles presented in this volume is provided. The bibliography is then presented.

8.11 Method of Literature Review

The following method was used in conducting the literature review for the present report. In order to ensure that as many articles as possible were identified a series of computer searches were conducted in the area of drink-drive rehabilitation. The following data bases were tapped: Social Scisearch Database, Australian Medlaws Service and Paperchase. Articles identified in this manner provided a source of further references. Contacts with individuals working in the area of drink-driver rehabilitation in Australia and New Zealand identified further relevant material.

Since the focus of the present report was rehabilitation programmes for drink-drivers every effort was made to identify all existing material, published and unpublished, in this area. Unfortunately it proved impossible to obtain some of the material identified, primarily U.S. government publications and other unpublished U.S. data. All papers which were obtained were abstracted to provide more useful information for workers in the area of rehabilitation.

In addition, background general material relating to drink-driving and its countermeasures was also identified and collected. Since there is a large literature in this area, the bibliography of the general material is selective only. The articles included are those which are most commonly cited in the literature.

8.12 Classification of Articles

Articles were initially classified according to whether they dealt with rehabilitation programmes specifically or with the drink-drive literature in general. Articles were classified as shown below.

: Rehabilitation Programmes

All articles which dealt with rehabilitation programmes and which the authors were able to obtain were briefly abstracted. These articles were subdivided as follows:

- a) Experimental papers: Studies which provided empirical investigations of the effectiveness of rehabilitation programmes
- b) Descriptive papers: Studies providing descriptive information as to course content, course aims, selection criteria, referral procedures, course structure and assessment procedures
- c) Review papers: Papers reviewing the overall effectiveness of rehabilitation programmes

: Drink-driving and Its Countermeasures

A selective review of the literature on drink-driving is provided in this section. No abstracts are provided and the articles are subdivided as follows:

- a) Description of drink-driving population: Articles relating to the driving histories of drink-drivers, the incidence of alcohol-related problems and information concerning the age, sex, occupation, marital status, social class and personality characteristics of drink-drivers are included in this category.
- b) Drink-driving primary prevention countermeasures: This category contains articles concerned with public education campaigns including school-based programmes and mass education programmes about drink-driving as well as

other primary prevention approaches such as those which focus on environmental engineering or server intervention and the like.

- c) Detection of drink-drivers and legislative penalties: This category contains articles concerned with legislative as well as articles examining detection procedures such as random breath testing penalties for drink-driving.
- d) General reviews of drink-driver countermeasures: Papers which review the effectiveness of drink-driver countermeasures generally are included in this category. Some of these papers deal in part with rehabilitation programmes.
- e) General articles: Articles which provide general background information concerning drink-driving are included in this category. It contains references concerned with traffic safety, the relationship between alcohol and traffic safety and those concerned with alcoholism or alcohol-related problems.

8.2 BIBLIOGRAPHY

8.21 Rehabilitation Programmes

a) Experimental Papers Examining Drink-driver Rehabilitation Programmes:
Studies which provided empirical investigations of the effectiveness of rehabilitation programmes. All obtained studies were abstracted.

Amrick, D.R. and Marshall, P.B. (1984) An evaluation of the Bonneville County DUI Accident Prevention Program (Project Safety). Traffic Safety Evaluation Research Review, 3, 7-21.

Evaluates the first 15 months of Project Safety, an integrated drink driver crash prevention programme. A before-after analysis, which included 2 comparison locations, used an alcohol proxy measure (night time fatal and injury crashes and an estimate of the cost savings in crash reduction. A significant reduction in the number of crashes was found in the treatment area but not in the comparison countries. Estimates at the cost savings in crash reduction due to Project Safety were made.

Argeriou, M. and Manohar, V. (1978) Relative effectiveness of nonalcoholics and recovered alcoholics as counsellors. Journal of Studies on Alcohol, 39, 5, 793-799.

Positive changes in drinking behaviour occurred significantly more often in young patients counselled by recovered alcoholics than in young patients counselled by nonalcoholics.

(1977) Treating the problem drinking driver: some notes on the time required to achieve impact. *British Journal of Addiction*, 72, 331-338.

Examines the experience of 277 problem drinking males in treatment. The data support the contention that 6 months involvement in a programme is sufficient to achieve impact on problem-drinkers but not on severe problem-drinkers.

Ben-Aire, D., George, G.C.W. and Hirschowitz, J. (1983) Compulsory treatment of 50 alcoholic drunken drivers. *South African Medical Journal*, 63, 241-242.

Evaluates the efficacy of compulsory treatment of 50 alcoholic drink-drivers. Overall, subjects showed improvement in drinking behaviour.

Brown, R.A. (1980) Conventional education and controlled drinking education courses with convicted drunken drivers. *Behavior Therapy*, 11, 632-642.

Convicted drink-drivers were randomly assigned to either a conventional drink-driver education course, an education course on controlled drinking or a no-education control condition. Drinking disposition and psychosocial adjustment were assessed prior to the course and at 3 month intervals during a 12-month follow-up period. Drivers in the 2 education conditions improved in psychosocial adjustment, but only those given controlled drinking training showed any significant reduction in the number of days they engaged in uncontrolled drinking.

(1979) Participant evaluation of two alcohol education courses. *Perceptual and Motor Skills*, 48, 577-578.

Reports on an evaluation by participants of two types of alcohol education courses used with drink-drivers. Both courses were evaluated positively by participants but the controlled drinking course appeared to be of greater personal relevance to participants than the traditional educational course.

Coghlan, G.R. (1979) The investigation of behavioral self-control theory and techniques in a short-term treatment of male alcohol abusers. Ph.D. Thesis, State University of New York at Albany.

Department of the Attorney General and N.S.W. Bureau of Crime Statistics and Research. (1976) The Sydney Drink-driver Rehabilitation Programme: an Evaluation of the Pilot Scheme, pp.87.

Evaluates the drink-driver rehabilitation programmes in the Sydney region during their pilot phase in 1976. Offenders who undertook a driver education programme were compared with eligible offenders who declined to enter the programme, offenders not eligible for the programme and a control group. Participants had the worst reconviction rate for drink-driving than other groups.

Eddy, J. (1976) A DWI educational program. Journal of Drug Education, 6, 2, 137-139.

Provides a description and some of the results of an educational programme for drink-drivers. 227 drink-drivers were taken in the first year of the course; 20% had prior DWI arrests. Attitudinal change and drink-drive recidivism were examined by conducting a one-year record check. The author reports that students exhibited good attitudinal change. Out of the first 139 subjects, 3 were recidivists within one year of completion of the course; 27 of the 46 subjects with prior drink-drive arrests were checked and 1 has been re-arrested for drink-driving.

Ellingstad, V.S. and Struckman-Johnson, D.L. (1978) Short term rehabilitation (S.T.R.) study: 18 month analysis. Contract No. DOT HS-6-01366. Vermillion: Human Factors Laboratory, University of South Dakota.

Fine, E.W., Steer, R.A. and Scoles, P.E. (1977) Evaluation of a treatment program for drunk driving offenders. *Currents in Alcoholism*, 6, 121-135.

Evaluates the Alcohol Highway Safety Program which provided 6 months of alcoholism counselling by comparing a treatment and control group on measures of alcohol behaviours, driving characteristics and psychopathology. While decreases in 11 of these measures were found, there were no significant differences between groups suggesting the changes may be attributable to just the passage of time.

Hagen, R.E., Williams, R.L. and McConnell, E.J. (1981) Effectiveness of license suspension or revocation for drivers convicted of multiple driving-under-the influence offences: an overview of 3 studies. *Proceedings, Symposium on Traffic Safety Effectiveness (Impact) Evaluation Projects*, NHTSA, U.S., Department of Transportation.

____ (1979) The traffic safety impact of alcohol abuse treatment as an alternative to mandated licensing controls. *Accident Analysis and Prevention*, 11, 4, 275-291.

Evaluates the effectiveness of a 12-month alcohol abuse treatment programme for multiple driving-under-the-influence offenders upon traffic safety (crashes, personal injury, fatalities etc.). Results indicate that the programme demonstrated no clear advantages over mandatory licensing controls.

Holden, R.T. (1983) Rehabilitative sanctions for drunk-driving: an experimental evaluation. *Journal of Research in Crime and Delinquency*, 20, 1, 55-72.

Evaluates the effectiveness of various treatments (probation supervision, education/therapy, supervision plus education/therapy, control) in reducing rearrests for drink-driving or for other misdemeanours and felonies of convicted drink-drivers. Treatment programmes were found not to be effective generally.

Holt, J.S. (1979) Differential effects of educational, moral judgement and combined educational and moral judgement treatments in the rehabilitation of persons convicted of driving while under the influence of alcohol. Ph.D. Thesis, University of Southern Mississippi.

Howatt, W.J. (Jr.) (1981) Convicted drinking driver programs: a success in San Diego, Abstracts and Reviews in Alcohol and Driving, 2, 6, 2-6.

Kern, J.C., Schmelter, W.R. and Paul, S.R. (1977) Drinking drivers who complete and drop out of an alcohol education program. Journal of Studies on Alcohol, 38, 89-95.

Of 855 convicted drink-drivers who participated in an alcohol education programme, those who needed the programme the most (the young and those with high blood alcohol levels at the time of arrest) were most likely to drop out of the programme.

Lacey, J.H., Stewart, J.R. and Popkin, C.L. (1983) The effect of alcohol safety schools on the driving behavior of DUI offenders. Paper presented at the 9th International Conference on Alcohol, Drugs and Traffic Safety, San Juan, Puerto Rico.

Landrum, J., Miles, S., Neff, R., Pritchard, T., Roebuck, J., Wells-Parker, E. and Windham, G. (1982) Mississippi DUI probation follow-up project, (Report No. DOT HS-806-274). Washington, D.C.: National Highway Safety Administration.

Lang, K.S. and Rainwater, J.A. (1982) Office of Traffic Safety - drinking driver program in Santa Clara county: a final evaluation report. Sacramento, C.A.: California Office of Traffic Safety.

Malfetti, J.L. (1975) Reeducation and rehabilitation of the drunken driver, *Journal of Drug Issues*, 255-269.

Evaluates the DWI Phoenix education programme for convicted drink drivers. Pre- and post-test measures of knowledge and attitude about alcohol and drink-driving showed a significant improvement in participants' scores. Significant differences in favour of the experimental group on reconvictions was found when comparing this group with a matched control group.

Malfetti, J.L. and Simon, K.J. (1975) A comparison of changes in knowledge and attitude between problem drinkers and non-problem drinkers following a re-education program IN S. Israelstam and S. Lambert eds. *Alcohol, Drugs and Traffic Safety, Proceedings of the Sixth International Conference on Alcohol, Drugs and Traffic Safety*. Toronto: Addiction Research Foundation, pp.737-748.

Evaluates the effectiveness of the "DWI Counterattack" education programme for convicted drink-drivers. A pre- and post-test design was used to evaluate the effectiveness of the course in changing knowledge and attitude about drink-driving. Comparisons were made between problem-drinkers and non-problem drinkers. Both groups showed a significant increase in knowledge but results suggest that the problem-drinking group were more resistant to change than the non-problem drinkers.

(1974) Evaluation of a program to rehabilitate drunken drivers. *Traffic Quarterly*, 28, 49-59.

Evaluates the effectiveness of the "DWI-Counter Attack" education programme in rehabilitating drink-drivers. 335 subjects were administered pre- and post-course testing on two main measures - knowledge about drink-driving and attitudes about drink-driving. Both measures were found to be significantly improved following the course.

McGuire, F.L. (1978) The effectiveness of a treatment program for the alcohol-involved driver. American Journal of Drug and Alcohol Abuse, 5, 4, 517-525.

Utilizes a quasi-experimental design to evaluate the effectiveness of a "Don't drink-and-drive programme, comparing 876 convicted drivers with 802 untreated drivers over a one-year period. Significant differences were found on measures of subsequent driving behaviour.

Michelson, L. (1979) The effectiveness of an Alcohol Safety School in reducing recidivism of drinking drivers. Journal of Studies on Alcohol, 40, 11, 1060-1064.

Convicted drink-drivers who participated in a safe driving programme had higher rates of traffic violations, points and crashes than did controls.

Neff, R.L. and Landrum, J.W. (1983) The life activities inventory as a countermeasure for driving-while-intoxicated. Journal of Studies on Alcohol, 44, 5, 755-769.

The simple administration of the Current Status section of the Life Activities Inventory appears to reduce drink-driving recidivism substantially and cost-effectively among "low-risk" drink-drivers.

Nichols, J.L., Ellingstad, V.S. and Struckman-Johnson, D.L. (1979) An experimental evaluation of the effectiveness of short-term education and rehabilitation programs for convicted drinking drivers. Currents in Alcoholism, 6, 157-178.

Examines the effect of rehabilitation programmes upon traffic safety, drinking behaviour, life status and personality adjustment, using a sample of moderate problem drink-drivers randomly allocated to treatment and control groups. Results show that programmes have few positive effects compared to controls.

Northern Metropolitan Region of the N.S.W. Health Commission (1981) Evaluation of the initial stages of a Drink-Driver Diversion Program. Sydney: N.S.W. Health Commission.

Assesses the Chatswood drink-driver programme. The rate of recidivism between an experimental and control group found no significant differences. A pre-post knowledge and attitude questionnaire completed by the experimental group showed significant positive changes in attitudes and knowledge levels about drink-driving.

Papandreou, N., Brooksbank, J.V. and McLaughlin, K.M. (1985) Alcohol and offending: a probation service's education programme. Australian and New Zealand Journal of Criminology, 18, 67-72.

Evaluates the effectiveness of Western Australia's Probation and Parole Alcohol Education Programme in developing within the participants an awareness of the effects that unwise drinking is having upon their lives. 320 subjects who attended the education course were administered a pre- and post-test questionnaire. Results indicated an increase in scores which was significant showing that the programme was helping in developing participant's awareness of alcohol and its effects.

Pennock, M. and Poudrier, M. (1978) Overcoming denial: changing the self-concepts of drunken drivers. Journal of Studies on Alcohol, 39, 5, 918-921.

A 11-week educational programme for persons convicted of drink-driving resulted in more positive concepts of alcoholics but no change in self-concepts.

Pipes, R.B. and Walters, E. (1983) Changes in attributions made by individuals charged with driving while intoxicated. *The Journal of Social Psychology*, 121, 39-44.

Utilizes a pre- and post-test design to investigate some of the attributional processes used by individuals in their attempts to understand their arrest for driving while intoxicated after attending a "Driving Under the Influence" school. Results suggest that attributions to luck decreased as a result of the school.

Poudrier, L.M., Mulligan, E. and Gray, R.H. (1975) Driving while impaired: description of an educational program for second and subsequent offenders as an alternative to incarceration. Toronto: Addiction Research Foundation.

Preusser, D.F., Ulmer, R.G. and Adams, J.R. (1976) Driver record evaluation of a drink driver rehabilitation program. *Journal of Safety Research*, 8, 3, 98-105.

Evaluates the effectiveness of the Nassau County Alcohol Safety Action Project's Driver Rehabilitation Programme in reducing the number of repeat convictions for alcohol-related driving offenses. Random allocation to the experimental and control groups showed no differences in terms of the number of recidivists.

Raymond, A. Youth and its problems IN Johnston, I.R. (1979) Proceedings of the Seventh International Conference on alcohol, drugs and traffic safety, Melbourne, 23-28 January, 1977. Canberra: Australian Government Publishing Service.

Evaluates the effectiveness of St. Vincent's Drivers' Course for drunk drivers. Results suggest that drink drivers who attend the course have a lower rate of recidivism when compared with a group of breathalysed drivers however no statistical tests have been used.

Reis, R.E. (1980) First interim analysis of first offender treatment effectiveness. Comprehensive D.U.I. treatment project. Contract No. DOT HS-01414, N.H.T.S.A., County of Sacramento Health Dept., Sacramento, California.

____ (1982a) The traffic safety effectiveness of education programs for first offense drunk drivers. (Contract No. DOT HS-6-01414). Washington, D.C.: National Highway Traffic Safety Administration.

____ (1982b) The traffic safety effectiveness of educational counselling programs for multiple offense drunk drivers. (Contract No. DOT HS-6-01414). Washington, D.C.: National Highway Traffic Safety Administration.

Reis, R.E. and Davis, L.A. (1980) First interim analysis of multiple offender treatment effectiveness. Interim Report. County of Sacramento Health Dept., Sacramento, California, Contract No. DOT HS-6-01414, N.H.T.S.A., Washington, D.C.

Sadler, D.D. and Perrine, M.W. (1984) The long term traffic safety impact of a pilot alcohol abuse treatment as an alternative to license suspensions: Volume 2 of an evaluation of the California Drink Driving Countermeasures System: California: Department of Motor Vehicles.

Evaluates California's pilot treatment programme for convicted drink drivers in terms of traffic crash and conviction variables. A treatment group was compared with a "control" group of convicted drink-drivers who received license suspensions by examining subsequent 4-year driving records. Results indicate that the hypothesized reduction in alcohol-related crashes among treatment participants did not occur.

Salzberg, P.M. and Klingberg, C.L. (1983) The effectiveness of deferred prosecution for driving while intoxicated. *Journal of Studies on Alcohol*, 44, 2, 299-308.

Drink-driving offenders who received deferred prosecution and concomittant alcoholism treatment were found to have significantly more postdeferral drink-driving violations than did a control group of drink-drive offenders who received normal judicial sanctions.

Salzberg, P.M. and Paulsrude, S.P. (1984) An evaluation of Washington's driving-while-intoxicated law: effect on drunk-driving recidivism. *Journal of Safety Research*, 15, 117-124.

Evaluates the 1980 Washington Driving While Intoxicated law's impact upon subsequent driving behaviour of convicted drink-drivers. It was found that higher crash rates and drink-drive recidivism actually occurred under the new law than previously.

Salzberg, P.M., Houser, R. and Klingberg, C.L. (1981) Licence revocation and alcoholism treatment programs for habitual traffic offenders. (Report No.49). Olympia, W.A.: Washington Department and Licensing.

Scoles, P. and Fine, E.W. (1977) Short-term effects of an educational program for drinking-drivers. *Journal of Studies on Alcohol*, 38, 3, 633-637.

In a study of convicted drink-drivers, mean scores on two measures of alcohol impairment decreased in subjects who completed an educational safe driving programme and in those who did not, suggesting a need for new approaches to drink-driving problems.

Seixas, F.A. and Hopson, A.L. (1975) The effect of rehabilitation on the driving behaviour of problem drinkers IN S. Israelstam and S. Lambert (Eds.), Alcohol, drugs and traffic safety, Proceedings of the Sixth International Conference on Alcohol, Drugs and Traffic Safety. Toronto: Addiction Research Foundation of Ontario, 1975, 723-736.

Evaluates the effectiveness of alcoholism treatment for a sample of drink drivers by comparing them with a matched control group on measures of driving behaviour. Data indicated a significant improvement in the driving behaviour of the treatment group.

Steer, R.A. (1983) Retention of driving-under-the-influence offenders in alcoholism treatment. Drug and Alcohol Dependence, 12, 1, 93-96.

Race, age, education, marital status, employment status, occupational level, prior treatment status and Global Severity Index scores of 244 men admitted to a treatment programme for alcoholism were analysed to see if these characteristics were related to completing treatment. Age, the Global Severity Index and current employment were found to be significant.

Strachan, J.G. (1973) The Alberta Impaired Drivers' Project: The Canadian Psychologist, 14, 1, 34-47.

Provides a detailed description of a drink-drive education programme for convicted drink-drivers in Alberta. A brief review of some of the data of the first 15 months of operation is presented showing that fewer course participants were found to be recidivists than convicted drivers who did not attend the course.

Struckman-Johnson, D.L. and Ellingstad, V.S. (1979) Implementation of a large scale rehabilitation program evaluation IN Proceedings of the 1979 N.C.A. Alcohol and Traffic Safety Session, 30 April - 2 May, 1979. DOT HS-804-857. Washington, D.C.: U.S. Dept. of Transportation, N.H.T.S.A, pp.127-137.

Swenson, P.R. and Clay, T.R. (1980) Effects of short-term rehabilitation on alcohol consumption and drinking-related behaviours: an eight month follow-up study of drunken drivers. *The International Journal of the Addictions*, 15, 6, 821-838.

Assesses the effects of short-term alcohol treatment intervention (prevention and therapy workshops) on subsequent drinking behaviour and drinking-related problems using 436 convicted drink-drivers. Results indicate that treatment had no more effect than minimal exposure in improving the quality of either social- or problem-drinkers' life situations.

Swenson, P.R., Struckman-Johnson, D.L., Ellingstad, V.S., Clay, T.R. and Nichols, J.L. (1981) Results of a longitudinal evaluation of court-mandated DWI treatment programs in Phoenix, Arizona. *Journal of Studies on Alcohol*, 42, 7, 642-653.

Men in 3 types of short-term treatment programmes showed few differences in drinking patterns, drinking-related behaviour and social adjustment at 6 months, 12 months and 18 months after treatment.

Uecker, A.E. and Bottelier, L.R. (1976) Alcohol education for alcoholics; relation to attitude changes and post-treatment abstinence. *Journal of Studies on Alcohol*, 37, 965-979.

Vingilis, E., Adlaf, E. and Chung, L. (1981) The Oshawa impaired drivers programme: an evaluation of rehabilitation programme. *Canadian Journal of Criminology*, 23, 93-102.

Evaluates the effectiveness of an education programme for convicted drink drivers in terms of its impact upon knowledge about drink-driving, attitudes about drink-driving and recidivism. Subjects were randomly assigned to either a treatment or control group. Results indicate that the programme had a positive effect on knowledge but not on attitude; the programme had no significant effect upon recidivist rates when compared with the control group.

Zelhart, P.E. (1973) *The Alberta Impaired Drivers Programme: final report, phase I.* Edmonton: University of Alberta.

Zelhart, P.F. and Schurr, B.C. (1975) *The Alberta impaired drivers' program: final report on evaluation.* Ottawa: Ministry of Transport.

Evaluates the effectiveness of the Alberta Impaired Drivers' Programme. Findings indicated that no reduction in drink-drive recidivism resulted from the programme however a general improvement in driving behaviour did occur in those drivers attending the programme compared to drink-drivers who did not attend the programme.

b) Descriptive Papers Examining Drink-driver Rehabilitation Programmes:

Studies providing descriptive information as to course content, as to course aims, selection criteria, referral procedures, course structure and assessment procedures.

Hospital-based drinking drivers program established in South Bronx (1978)
Hospitals, 52, 17, 28-30

Describes the factors leading to the establishment of a hospital-based Drinking-Drivers programme in New York City. The programme is briefly described.

Hall, R.W. (1977) An alternative to the criminality of driving while intoxicated. Journal of Police Science and Administration, 5, 2, 138-144.

Argues that conventional enforcement programmes have failed to reduce the number of highway crashes, deaths and injuries attributable to the drink-driver. Criteria for a successful drink-drive enforcement programme are outlined and the Park Forest Lutheran General Programme is outlined as an alternative to the criminality of driving while intoxicated. This programme offers the offender the chance to participate in a voluntary alcohol diagnostic evaluation test and treatment programme tailored to the needs of the offender.

Milner, G. (1979) An Australian management programme for drinking drivers: driving simulator, controlled drinking, video-tape and educational self-image confrontation IN I.R. Johnson (Ed.), Proceedings of the Seventh International Conference on Alcohol, Drugs and Traffic Safety, 1977. Canberra: Australian Government Printing Service, 598-600.

Describes the Victorian Alcoholics and Drug Dependent Persons Services' educational programme for drink-drivers. After a thorough assessment clients undergo a programme involving controlled drinking, testing on various psycho-motor skills and testing on a driver simulator, whilst being video-taped. A feedback session follows where clients evaluate their performance while drinking.

Morris, J. and Bush, R. (1981) Drinking Driver Programmes, Sydney, N.S.W. Drug and Alcohol Authority, pp.57.

This report focuses on drink-driver programmes in N.S.W. It provides information in three areas: putting drink-driver programmes into perspective by outlining some of the broader issues involved and common countermeasures available; the extent and distribution of drink driver convictions in N.S.W.; and, the current distribution and style of drink-drive programmes in N.S.W. up until May, 1981.

Proceedings of the Institute of Criminology (No.33) (1977) A Diversion Programme for Drinking Drivers, Faculty of Law, University of Sydney, pp.70.

Provides a general background to, and a description of the drink-drive diversion programme operating in N.S.W. since 1976, as well as a discussion of related issues. The programme aimed: to identify the driver with a drinking problem, to assess the degree of the problem and the most effective method of treating it and, to minimize the likelihood of subsequent drink-driving. Some of the topic papers include: planning and development of the programme, objectives, methodological problems in evaluation and treatment aspects of the programme.

Rehabilitation programmes: Descriptive papers

Raymond, A. (1976) The information gap. Australian Journal of Alcohol and Drug Dependence, 3, 4, 112-114.

Provides a description of the aims, selection criteria, referral procedures, course structure and assessment of the St. Vincent's Hospital's drink-drive programme.

Stewart, E.I. and Malfetti, J.L. (1970) Rehabilitation of the Drunken Driver, New York, Teachers College Press, pp.259.

Describes the operation of the Phoenix DWI Course, a basic unit of the Phoenix Alcohol Research and Re-Education Project. This is an education course designed for the rehabilitation of convicted drink-drivers. The background and development of the course is described as well as a detailed outline of DWI sessions, including learning tools used and assessment measures in the programme.

Walker, E.J. (1979) The Sydney Drink-Driver Scheme: a court referral programme for high risk drinking drivers IN I.R. Johnston (Ed.), Proceedings of the Seventh International Conference on Alcohol, Drugs and Traffic Safety, 1977. Canberra: Australian Government Printing Service, 582-590.

Describes the Sydney Drink Driver Diversion Scheme, operating since 1976. The scheme's operations are described and a profile of participants who have entered the scheme is provided. A discussion follows regarding the evaluation of the scheme and preliminary results are presented.

c) Reviews of Drink-Driver Rehabilitation Programmes: Papers reviewing the overall effectiveness of rehabilitation programmes.

Brown, P., Zelhart, P.F. and Schurr, B.C. (1975) Evaluating the effectiveness of reeducation programs for convicted impaired drivers IN S. Israelstam and S. Lambert eds. Alcohol, drugs and traffic safety, Proceedings of the Sixth International Conference on Alcohol, Drugs and Traffic Safety, 1974. Toronto: Addiction research Foundation of Ontario, 749-754.

Argues that the evaluative model used to assess driver reeducation programmes for drink-drivers in the U.S. has not been the most appropriate model. It is argued that the social scientist's traditional approach has limited understanding of the implications and impact of such programmes. It is suggested that evaluative models must be used which monitor the multiple objectives and activities of programmes rather than in terms of a single terminal criterion.

Bush, R. (1982) Intervention Programmes for Convicted Drink Drivers: an Evaluation. Sydney, N.S.W. Drug and Alcohol Authority, pp.38.

Provides a description of drink-driver intervention programmes provided in N.S.W. An evaluation in terms of traffic safety, justice and health care objectives is made. New directions are suggested in terms of the position of programmes in legal "due process", and the recognition of the heterogeneity of the convicted population. Assessment to identify "high risk" groups is recommended as well as use of a variety of intervention modes more suited to the characteristics of these drivers.

Didsbury, G. (1980) Rehabilitation programmes and the prospects for success. In: Victorian Road Safety and Traffic Authority, Road safety initiatives, 1980. Melbourne, Victorian Road Safety and Traffic Authority, 473-485.

Addresses the deficiencies of rehabilitation measures as a countermeasure for drink-driving. The author argues that rehabilitation courses at present have a limited usefulness for 4 main reasons: (1) we have failed to place them in a broad enough perspective which would examine lifestyle and society; (2) they operate on an arbitrary referral system which takes no account of research; (3) we have not utilized current knowledge in designing and implementing rehabilitation measures, and (4) we have allocated few resources towards establishing programmes.

Findlay, E. and Ross, J. (1984) Drink-drive Programs in Victoria, Melbourne, Health Commission of Victoria, pp.86.

Describes those drink-drive programmes (DDP) operating in Victoria, which are mostly based on the model developed at St. Vincent's Hospital, Melbourne, although, there is a significantly different programme available at Pleasant View Centre. Staffing, course profiles, client profiles, conviction and client numbers, referral sources, programme funding, costs and charges as well as the effectiveness of programmes are discussed. It is concluded that because of the expense of DDP compared with the punitive approach of fines and disqualification, there is a need to review current programmes and to consider necessary adjustments to existing policies.

Hayslip, B., Kapusinski, D. and Darbes, A. (1976) Evaluation of driving while intoxicated programs; some methodological considerations. Journal of Studies on Alcohol, 37, 11, 1742-1746.

Discusses methodological problems encountered in evaluating the effectiveness of driving-while-intoxicated programmes including: the attrition of subjects in follow-up research, the problem of an adequate control group, small sample sizes, deficiencies in record keeping and the ex-post-factor nature of DWI research.

- Kessell, A. (1982) A commentary on drinking drivers' programmes, In: Santamaria, J.N. ed. Proceedings of Seminars, 1982 Autumn School of Studies in Alcohol and Drugs, Melbourne, St. Vincent's Hospital, 41-45.

In this paper it is argued that drink-drive programmes which are currently functioning in Australia can be expected to do little to reduce our road toll, but they can be primary health care initiatives with secondary spin-offs to road safety and other consequences of alcohol abuse.

- Kunkel, E. (1983) Driver improvement courses for drinking-drivers reconsidered. Accident Analysis and Prevention, 15, 6, 429-439.

The author argues that current scientific discussion centres too much on methods of evaluation rather than purposes of evaluation. It is argued that the necessary starting point for course construction and evaluation should be a clear definition of the aim of the courses and a consistent programme for the courses.

- Mann, R.E., Leigh, G., Vingilis, E.R. and de Genova, K. (1983) A critical review of the effectiveness of drinking-driving rehabilitation programmes. Accident Analysis and Prevention, 15, 6, 441-461.

Research designs, assessment instruments and follow-up procedures for the evaluation of Driving-While-Intoxicated (DWI) rehabilitation programmes are considered and the results of these programmes are reviewed. While evaluations of the rehabilitation programmes have been hindered by methodological difficulties, the authors consider that the information presently available indicates that certain of those programmes may reduce recidivism in DWI offenders. The authors conclude that those results need to be replicated in future well-controlled studies.

Nichols, J.L. (1979) The effectiveness of ASAP education and rehabilitation programs In: Johnston ed. Proceedings of the 7th International Conference on Alcohol, Drugs and Traffic Safety, Canberra, 1979, Canberra, A.G.P., 633-630.

Reviews the effectiveness of ASAP education and rehabilitation in America in the period from 1972-1974. Evaluation was made of both project and programme level. Many of the studies reviewed were judged as being methodologically weak. It was concluded that there is little evidence to show that the programmes reviewed had a measureable crash reduction impact. It appeared, however, that persons diagnosed as non-problem drinkers were less likely to be rearrested for drink-driving than are persons diagnosed as problem-drinkers.

Nichols, J.L., Weinstein, E.B., Ellingstad, V.S. and Struckman-Johnson, D.L. (1978) The specific deterrent effect of ASAP education and rehabilitation programs. Journal of Safety Research, 10, 4, 177-187.

Reviews evaluative studies of ASAP programmes in 35 locations. Programmes were reviewed by type of drinker and type of programme. Results indicated a small positive effect for social drinkers but none for problem drinkers. All programmes appeared to have an effect in deterring social drinkers but only small, group-participation schools had an effect (small) on problem drinkers.

Nichols, J.L., Weinstein, E.B., Ellingstad, V.S., Struckman-Johnson, D.L. and Reis, R.E. (1981) The effectiveness of education and treatment programmes for drinking drivers: a decade of evaluation IN L. Goldberg ed. Alcohol, drugs and traffic safety, Volume III. Proceedings of the 8th International Conference on Alcohol, drugs and traffic safety. Stockholm: Sweden Almquist and Wiksell International, pp.1298-1395.

Raymond, A. (1980) A question of priorities - the man or the method? *Community Health Studies*, 4, 3, 299-302.

Argues that there is a basic conflict of interest between the methodologist and the needs of the convicted drink-driver when one sets up a drink-drive rehabilitation course and then attempts to evaluate it at the same time. It is argued that the use of randomized clinical controls, with follow-up for evaluative purposes becomes impossible if the drivers' interests are given priority over the scientist. The problems, drawbacks and difficulties of this method of evaluation are then discussed.

Seth, R. Policy Implication of the N.S.W. Drink/Driver Rehabilitation Programme. (Paper delivered at 1st Pan Pacific Conference on Drugs and Alcohol, Canberra, 26th February/March, 1980). Canberra: Australian Foundation on Alcohol and Drug Dependence.

Siegal, H.A. (1983) The Intervention Approach to Drunk Driver Rehabilitation. Paper presented at 9th International conference on Alcohol, Drugs and Traffic Safety, Puerto Rico.

Smith, D.I. (1985) Should we evaluate alcohol treatment programmes in Australia, and if so, how? *Australian Alcohol and Drug Review*, 4, 1, 23-39.

Briefly reviews alcohol treatment evaluation studies conducted in Australia. It is asserted that one should only evaluate programmes in Australia if the content of the programme is different to that of the overseas programmes evaluated and if there is reason to believe that the Australian programme is having a beneficial effect. Seven methodological issues are considered, together with the industrial relations aspect of such research.

South, D.R. (1980) Treatment programmes for drinking drivers in Australia - potential and limitations. *Community Health Studies*, 4, 3, 294-298.

It is argued that no rehabilitation programme for drink-drivers has been effective in reducing the subsequent crash record of those participating. This is attributed to the fact that evaluations have been inadequate or not conducted at all. It is also argued that even if successful programmes can be developed, there will only be a minor effect on the total number of crashes.

South, D.R. and Key, D. (n.d.) Specific Deterrence and Rehabilitation of Convicted Drinking Drivers - the Accident Reduction Potential as yet Unrealized, Melbourne, Road Safety and Traffic Authority, pp.13.

Examines all drivers involved in crashes in which someone was killed in Victoria, during 1980-1981 to see how many drivers had been drinking or had prior drink-driving convictions. It was estimated that if perfectly effective programmes to prevent subsequent involvement in alcohol related crashes had been applied to all drivers detected of drink-driving then this would have resulted in 8.5% fewer fatal crashes and 4.1% fewer injury crashes in 1981 and that this would have saved the community approximately 21.26 million dollars.

Whitehead, P.C. (1975) DWI programs: doing what's in or dodging what's indicated? *Journal of Safety Research*, 7, 3, 127-134.

Discusses the Phoenix DWI education rehabilitation programmes for preventing drink-driving. It is argued that one problem with these programmes is that they deal with the "typical drunk driver" who is not necessarily representative of all drinking drivers. It is also argued that programmes designed to prevent recidivism may not be effective because of the low probability of being arrested for drink-driving. It is suggested that, potentially, the best programmes are those that combine low legal blood alcohol concentrations with rigorous and uniform enforcement.

8.22 Studies Relating to Drink-driving and its Countermeasures

a) Description of the drink-driving population: Articles relating to the driving histories of drink-drivers, the incidence of alcohol-related problems and information concerning the age, sex, occupation, marital status, social class and personality characteristics of drink-drivers are included in this category.

Argeriou, M. and Paulino, D. (1976) Women arrested for drunken driving in Boston, *Journal of Studies on Alcohol*. 37, 5, 648.

Bako, G., MacKenzie, W.C. and Smith, E.S.O. (1979) Recidivist driver involvement in fatal highway accidents in Alberta, Canada, 1970-1972. IN I.R. Johnston ed. *Proceedings of the Seventh International Conference on Alcohol, Drugs and Traffic Safety*, Melbourne, 23-28 January, 1977. Canberra: Australian Government Publishing Service, 1979, pp.137-144.

Bell, R.A., Warheit, G.J., Bell, R.A. and Sanders, G. (1978) An analytic comparison of persons arrested for driving while intoxicated and alcohol detoxification patients. *Alcoholism*. 2, 3, 241-248.

Brown, R.A. (1980) Knowledge about responsible drinking in drinking drivers and social drinkers. *The International Journal of the Addictions*. 15, 8, 1213-1218.

____ (1981) Measurement of baseline drinking behaviour in problem-drinking probationers, drinking drivers and normal drinkers. *Addictive Behaviours*. 6, 15-22.

____ (1979) Use of Michigan Alcoholism Screening Test with hospitalized alcoholics, psychiatric patients, drinking drivers and social drinkers in New Zealand. *American Journal of Drug and Alcohol Abuse*. 6, 3, 375-381.

Caghan, E.N. (1976) Attitude change in male D.W.I. (Driving while intoxicated) offender. Ph.D. Thesis, Kent State University.

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- Cavaiola, A.A. (1984) Resistance issues in the treatment of the DWI offender. *Alcohol Treatment Quarterly*. 1, 2, 87-100.
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- De Hellis, J.D. (1975) Changing DWI behavior. Strategies for the DWI instructor. *Traffic Safety*, May, 6-33.
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- Evans, L. and Wasielewski, P. (1983) Risky driving related to driver and vehicle characteristics. *Accident Analysis and Prevention*, 15, 2, 121-136.

Fine, E.W. and Scoles, P. (1976) Secondary prevention of alcoholism using a population of offenders arrested for driving while intoxicated. *Annals of the New York Academy Sciences*, 273, 637-645.

Fine, E.W., Scoles, P. and Mulligan, M. (1975) Under the influence: characteristics and drinking practices of persons arrested the first time for drunk driving, with treatment implications. *Public Health Reports*, 90, 5, 424-429.

____ (1975) Alcohol abuse in first offenders arrested for driving while intoxicated IN S. Israelstam and S. Lambert eds. *Alcohol, Drugs and Traffic Safety, Proceedings of the Sixth International Conference on Alcohol, Drugs and Traffic Safety*. Toronto, September 8-13, 1974, Toronto, Addiction Research Foundation of Ontario, pp.169-174.

Foley, J.P., Glauz, W.D. and Sharp, M.C. (1976) Profile analysis of persons arrested for drunk driving, *Human Factors*, 18, 5, 455-464.

Fox, B.H. and Borkenstein, R.F. (1975) Patterns of blood alcohol concentrations among drivers IN S. Israelstam and S. Lambert eds. *Proceedings of the Sixth International Conference on Alcohol, Drugs and Traffic Safety*, Toronto, Addiction Research Foundation.

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Drink-driving: Drink-driving population

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b) **Drink-driving primary prevention countermeasures:** This category contains articles concerned with public education campaigns including school-based programmes and mass education and information programmes against drink-driving as well as other primary prevention approaches such as those which focus on environmental engineering, server intervention and the like.

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