

ANALYSIS OF WASHINGTON COLLEGE STUDENT ACTION PROGRAM (REVISED) (DM-DSR-1-A1-77-15)

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Final Report

December 1977

Prepared for

Washington County, Virginia, Division of Planning
Washington County Board of Supervisors
Ann Arbor, Michigan 48106

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ANALYSIS OF WASHTENAW COUNTY ALCOHOL SAFETY
ACTION PROGRAM TREATMENT COUNTERMEASURES

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Washtenaw County Alcohol Safety Action Program
Washtenaw County Health Department
Ann Arbor, Michigan 48104

by

Highway Safety Research Institute
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16. Abstract <p>Alcohol-related driving recidivism served as the primary measure used to evaluate WCASAP treatment activities. Alcohol-related confictions and crashes were compared between all persons convicted of drunk driving during the program (1971-72) and a similar population convicted during 1969-70.</p> <p>The results indicate that although recidivism rates measured by drunk driving convictions were lower for the program population than for the comparison population, the differences were not statistically significant. In accord with program goals, however, the alcohol-related crash experience was significantly better for the program population than for the comparison group. Results also suggest that if more individuals had been referred to ASAP or if more individuals had been placed in treatment programs other than legal sanctions only, the recidivism rates would have improved more than they in fact did.</p>					
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The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of Washtenaw County.

PREFACE

The Highway Safety Research Institute has undertaken a number of activities pertaining to its evaluation of the Washtenaw County Alcohol Safety Action Program, including roadside surveys, surveys of the general public and selected target groups, and collection and analysis of crash, arrest, and recidivism data.

These activities and their findings are described in separately bound reports consistent with the reporting structure of the sponsoring agencies. This structure enables the reader interested in a single topic to access the relevant report conveniently. However, the individual reports in this series largely do not contain comparative data derived from separate evaluative activities. Such comparisons, when appropriate, will be found in the summary report cited below.

Reports in this series which are completed, in process, or planned for the Fall 1973 are listed below:

1. Washtenaw County 1971, 1972 and 1973 BAC Roadside Survey, UM-HSRI-AL-73-6.
2. 1971 and 1973 ASAP Surveys: Washtenaw and Jackson County Voluntary Organizations, UM-HSRI-AL-73-7.
3. 1971 and 1973 ASAP Surveys: Washtenaw County Physicians, UM-HSRI-AL-73-8.
4. 1971 and 1973 ASAP Surveys: Washtenaw County General Public, UM-HSRI-AL-73-9.
5. 1971 and 1973 ASAP Surveys: Washtenaw County Attorneys, UM-HSRI-AL-73-10.
6. 1971 and 1973 ASAP Surveys: Washtenaw County Law Enforcement Agencies, UM-HSRI-AL-73-11.
7. 1971 and 1973 ASAP Surveys: Washtenaw County High School Students, UM-HSRI-AL-73-12.
8. Analysis of Washtenaw County Alcohol Safety Action Program Police Countermeasure Activity, UM-HSRI-AL-73-13.
9. Analysis of Washtenaw County Alcohol Safety Action Program Judicial, Referral and Diagnostic Activity, UM-HSRI-AL-73-14.

10. Analysis of Washtenaw County Alcohol Safety Action Program Treatment Countermeasures, UM-HSRI-AL-73-15.
11. Analysis of Washtenaw County Alcohol Safety Action Program Crash Criteria Measures, UM-HSRI-AL-73-16.
12. Washtenaw County Alcohol Safety Action Program Evaluation Summary, UM-HSRI-AL-73-17.

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1. SUMMARY AND CONCLUSIONS

The Washtenaw County ASAP treatment activities were evaluated primarily in terms of alcohol-related (AR) driving recidivism. Measures of recidivism were defined and tabulated from statewide driving records. These included Driving Under the Influence of Liquor (DUIL)/Impaired driving convictions, AR crashes, and AR incidents, either an AR violation, an AR crash, or both.

The ASAP population studied, all Michigan residents with driving records who received at least one DUIL conviction in Washtenaw County during 1971-72, were compared to a similar population of persons receiving convictions resulting from 1969 and 1970 arrests. Because of the absence of a randomly selected control group or a matched comparison group, the effects of the particular treatments utilized under the ASAP could not be adequately evaluated, except as recidivism rates were computed and compared for differing subgroups of the ASAP population. All recidivism rates were calculated from the date the individual was sentenced to a treatment program through the end of the two year period under study. For both the baseline and program period population, this produced an average of ten months of driving exposure.

Recidivism rates, using DUIL convictions as a measure, were lower though not significantly so, for the program population (5.4% of 1556 cases) than for the baseline population (6.3% of 1055 cases). The AR crash experience of the two populations did differ significantly, with a lower proportion of crash recidivists among the ASAP population. Over the average of ten months driving exposure, the data suggest that 26 alcohol-related crashes did not occur which might have been expected, given baseline period driving performance. Although no formal cost benefit analysis was done, the figures suggest that an estimated 28% of the resources spent on this group of drivers were recovered through crash prevention during this very short driving period.

The two recidivism measures of DUIL convictions and AR crashes appear to identify different subgroups of recidivists. Only ten individuals in the two populations (0.9% of the baseline and 0.6% of the program population) had both a subsequent DUIL and an AR crash. This finding may have important implications in defining largely independent subgroups of interest.

DUIL recidivism rates, unlike AR crash rates, were found to differ significantly by treatment subgroup for the program period population. The largest contribution to this difference came from the higher recidivism rates of those who received legal sanctions only, rather than any of the ASAP-sponsored treatments. This finding is especially encouraging, since the authors believe that the legal sanctions subgroup probably had less serious drinking problems than the remainder of the population and therefore would be expected to do better, rather than worse, than those in other treatments.

A similar result occurred when cases referred to ASAP were compared to those not referred. Recidivism, as measured by DUIL offenses, was significantly lower for ASAP clients than for non-referrals. However, no significant differences were found in AR crash experience. The splits by treatment subgroup and by referred/non-referred subgroups are not entirely independent, since the large majority of those receiving legal sanctions only were also not referred to ASAP.

Recidivism of ASAP referrals by drinking diagnosis classification produced not unexpected results. A larger proportion of alcoholics had subsequent DUIL offenses than did problem drinkers. Problem drinkers had more offenses than did persons classified as being non-problem drinkers. No differences were indicated in AR crash experience.

Probationers in the Antabuse* treatment program were monitored for compliance using two procedures. Results suggested that neither method was entirely acceptable in determining

*Antabuse[®] is the registered trade name of the drug disulfiram, produced by Ayerst Laboratories.

whether or not a probationer was drinking and thus inferences to be drawn regarding this treatment were difficult to make. Attendance of probationers was moderately good under the blood testing procedure (60% appeared for 70-100% of the weekly tests). However test results were inaccurate in that false positives were produced. Under twice-weekly supervised Antabuse administration, attendance dropped considerably, to the extent that 88% of the clients appeared for one-half or fewer of the required visits. During this monitoring period, clients may have been drinking (having an insufficient level of Antabuse in the blood) or they may have found the twice-weekly attendance simply a matter of too great an inconvenience.

Overall, it appeared that the ASAP program had a positive and significant effect on the AR crash experience of persons convicted of DUIL offenses during its life. By referring more individuals to ASAP or placing them in the available treatment groups rather than imposing legal sanctions only, the AR crash experience would probably have improved more than it actually did over the previous two years.

Although the total ASAP population did not do significantly better than the baseline population in terms of DUIL recidivism, the data strongly suggest that had more individuals been referred, or, had more persons received treatments other than legal sanctions, the proportion of DUIL recidivists would have dropped more than it in fact did, to the point where differences would have been statistically significant.

2. INTRODUCTION

The primary objective of the Washtenaw County Alcohol Safety Action Program has been to reduce the number of alcohol-related crashes and the consequences of such crashes. The program, operational since March 1971, has several countermeasure activities which are directed toward those elements thought to contribute to the occurrence of alcohol-related crashes. Countermeasures include public information and education, the apprehension of drunk drivers, pre-sentence investigations conducted with persons convicted of alcohol-related charges, and treatment of persons who are identified as having misused alcohol in the driving situation or who have other problems with alcohol use.

The contents of this report are limited to a discussion and evaluation of the treatment activities used within the ASAP court setting, primarily as they relate to drunk driving offenders. Treatment activities are evaluated, in large part, by the recidivism rates of participants, with recidivism defined either as subsequent drunk driving convictions and/or alcohol-related (AR) crashes.

Descriptions of the treatment activities appear in other reports* along with detail on the setting in which they operate and the clients who participate in them. This background information is summarized below.

Entry into a particular treatment is largely a function of the results of a pre-sentence investigation. After conviction for an alcohol-related charge, offenders can be referred to a court counselor. The counselor determines if the client has a drinking

*See WCASAP Final Report, October 1973; Analysis of WCASAP Judicial, Referral and Diagnostic Activity, October 1973; Instructors Manual for Alcohol Education Series, May 1973, and Leaders Manual for Educational Program for Probationers, Undated.

problem and then makes a sentencing recommendation to the court, which is in most cases implemented. Approximately three-quarters of all drunk driving offenders (Driving Under the Influence of Liquor (DUIL) or Impaired driving) are referred for this pre-sentence interview, as are one-third of the Drunk and Disorderly offenders.

Ninety-four percent of all drunk driving offenders receive a fine, 2% are sentenced to jail and 3% are fined and jailed. The combination of jail and/or fine has been broadly classified as the legal sanctions treatment. However those who receive legal sanctions may also participate in other treatments as well. These include the Antabuse program, general probation and/or educational classes.

Antabuse is a drug which blocks the metabolism of alcohol. For the individual who has been prescribed the drug properly there are few side effects unless alcohol is ingested, which produces an unpleasant physical reaction. All persons participating in the Antabuse program have been diagnosed either as alcoholics or problem drinkers. Their voluntary agreement to participate (subsequent to a trial period of use) and a medical prescription are necessary pre-conditions for the program. Persons are placed in the Antabuse program generally for 12 to 18 months, usually followed by six months of probation without the drug.

The Antabuse program has been monitored in two ways. Initially clients were required to report weekly for a blood test. The purpose of the blood test was to determine if the client had a sufficient level of drug in his system to prevent comfortable drinking. When the blood test was identified as producing false positives, a system of twice-weekly supervised Antabuse administration was initiated. Clients were changed to the new system between March and September 1972.

Clients placed on general probation typically have less severe drinking problems than those in the Antabuse program. Supervision of such clients by ASAP probation officers is also generally less intensive than for those on Antabuse, although this has been somewhat a function of the particular District Court

having jurisdiction over the case. The probation officers' primary responsibility toward persons on probation has been to insure that the sentence requirements are being fulfilled, including for some clients, clauses prohibiting driving or drinking.

Three series of educational courses have also been conducted for the ASAP, either as the sole non-legal sanction treatment, or as an ancilliary treatment for clients in the Antabuse program or on general probation. The Education Program for Probationers (EPP) is a seven-week series of two-hour sessions on alcohol and alcoholism. All attendees are problem drinkers or alcoholics. The purpose of the sessions is to assist clients in evaluating their own drinking, and to help them deal constructively with such things as stress, anger, and sobriety.

The Alcohol Education Series (AES) is a seven-week course, of 90 minute sessions, designed for clients who are not necessarily problem drinkers. The goal of the series is to help the student avoid future offenses through discussions on drinking and driving, driving skill impairment, legal and social responsibility, symptoms of alcoholism and community treatment resources for problem drinkers.

Similar to the above two courses, attendance at the six-week Human Behavior and Emotions (HBE) series is generally a part of the sentencing, but unlike these courses, criteria for entry is somewhat more stringent. The sessions' goal was to assist clients in resolving interpersonal problems and to modify resistance to treatment referrals.

3. DATA SOURCES AND METHODOLOGY

3.1 DATA SOURCES

The data used in the recidivism analyses described below came from both local and statewide sources. A baseline population was defined to be the 1257 persons who were arrested for DUIL or Impaired driving in Washtenaw County during 1969 or 1970 most of whom were convicted of one of these charges. The program period population initially included the 3539 persons who were arrested for DUIL, Impaired driving, or public intoxication in Washtenaw County during 1971 or 1972. Data describing all alcohol-related arrest incidents and the court action taken as a result of each arrest were obtained from applicable police and court agencies. Data pertinent to presentence investigations were also carried for all program period cases referred to the ASAP program.

During mid-1973, requests for the driving records of both populations were forwarded to the Michigan Department of State. It was found that 1204 of the baseline period cases had driving records (96%) and 2811 of the program period cases had driving records (79%). The lower percentage of program period cases with records was largely attributable to the inclusion of the public intoxication arrestees, many of whom were non-drivers or were arrested for non-traffic offenses.

These driving record data were received in computerized form on magnetic tape. The data were reformatted to achieve compatibility with University of Michigan computer systems and were merged with the existing client files so that all available data pertinent to each person was included in a single record. The two resultant files served as the basic data sets for the recidivism analyses.

3.2 METHODOLOGY

In order that comparability between the baseline and program period groups be maintained, several criteria for inclusion into the groups analyzed were applied. First, only Michigan residents were included in the analytic groups. Non-Michigan residents would not be likely to have historically complete driving records on file with the Michigan Department of State.

Second, since no data were collected on baseline period public intoxication arrestees, only DUIL and Impaired driving cases were examined. To be included in the analytic group, an individual had to have at least one DUIL or Impaired driving conviction resulting from an arrest within the time period.

There were 1087 baseline period Michigan residents with at least one DUIL or Impaired conviction resulting from a 1969 or 1970 arrest in Washtenaw County. Of those baseline cases, 1055 (97%) had Michigan driving records and were actually included in the analyses. Of the 1711 program period arrestees who met the other criteria, 1556 (91%) had driving records and were included in the analyses.

The first sentence date resulting from a Washtenaw County DUIL or Impaired driving conviction was determined for each case. Recidivists were defined as all persons who had an alcohol-related crash, or a DUIL or Impaired driving conviction resulting from an arrest the date of which occurred after the initial sentencing. The crash and arrest dates were taken from the person's driving record and thus covered statewide driving experience.

Since the driving record data obtained from the Michigan Department of State included any incident which occurred between January 1, 1967 and December 31, 1972, some restriction on events to be used in determining recidivism had to be devised in order to keep the number of months of post treatment exposure comparable for both populations. A recidivist was further defined to be any person who had an alcohol-related incident following his first sentence date, but prior to the end of the applicable two year baseline or program period. Table 3.1 shows the mean exposure time for the program period group as 10.1 months and the mean exposure time for the baseline group as 9.8 months. Thus the

TABLE 3.1. MONTHLY DISTRIBUTION OF DRIVING EXPOSURE
 SUBSEQUENT TO FIRST SENTENCE DATE FOR BASELINE
 AND PROGRAM PERIOD POPULATIONS

Months Exposure	Baseline Population		Program Population	
	# Persons	# Person Months	# Persons	# Person Months
23	18=	414	19=	437
22	21=	462	25=	550
21	28=	588	41=	861
20	37=	740	70=	1400
19	51=	969	77=	1463
18	52=	936	75=	1350
17	42=	714	39=	663
16	44=	704	65=	1040
15	39=	585	57=	855
14	46=	644	53=	742
13	33=	429	49=	637
12	35=	420	81=	972
11	45=	495	81=	891
10	36=	360	66=	660
9	44=	396	62=	558
8	45=	360	69=	552
7	34=	238	89=	623
6	64=	384	98=	588
5	38=	190	71=	355
4	38=	152	49=	196
3	34=	102	70=	210
2	29=	58	54=	108
1	29=	29	44=	44
0	173=	0	152=	0
	N=1055	10,369	N=1556	15,755

Means :

9.828

10.125

$\chi^2=52.31$

df=23

p=.01 (including "zero"
exposure group)

$\chi^2=27.47$

df=22

p>.05 (excluding "zero"
exposure group)

resulting mean exposure time for the program period group was only about nine days longer than the baseline period group.

To examine the exposure question further, the frequency distributions in Table 3.1 were tested to insure that the similarity between the two groups as indicated by the means also applied to the distributions. A chi square test of all cases in each population by the number of months exposure following initial sentencing indicated statistically significant differences between the two groups.

Upon further inspection, it was apparent that the chi square statistic was most influenced by the differences between baseline and program periods in the proportion of clients who had no exposure,* (initial sentence occurring at or after the end of the period analyzed). When a chi square was computed for all cases having at least one month exposure the statistic revealed no significant differences at the .05 level.

The question of whether to include cases who had no driving exposure in determining recidivism rates was addressed. Since significant differences in the distribution of first sentence dates were found when this "zero exposure" group was included, it was felt that these differences might seriously affect the outcome of the recidivism analyses. Thus recidivism rates were computed twice, both including and excluding the "zero exposure" group. It was decided that if the results obtained by the application of these two techniques differed, then subsequent analyses would be done after eliminating the zero exposure group. If the results were similar, the zero exposure cases would remain included in order to simplify the computer analyses. In the two comparisons, the results were consistent and therefore analyses have included the total populations.

*Two District Court judgeships were vacant during the latter part of 1972. Fewer cases were completed during this time period than would have been expected. While 56 cases were completed during the last month of the baseline period, only 32 were completed during the last month of the program period. One might have expected that these two values would have been reversed.

The program period population was also split into treatment subgroups based on the provisions of the first sentence. If a client received more than one treatment on his first sentence date, e.g., Antabuse and education, education and fine, he was classified into one group using the following hierarchy; Antabuse probation, general probation, education and legal sanctions.

Program period clients were also split into subgroups on the basis of referral status and drinking diagnosis. Persons referred to the ASAP program were compared with non-referred persons as were those diagnosed as alcoholics, problem drinkers, pre-alcoholics, and non-problem drinkers.

The core of the analyses involved comparison of recidivism rates between baseline and program period populations and among the treatment, referral, and diagnostic subgroups defined above. It should be noted here that no independent control groups were available to strengthen the conclusions cited below. The baseline-program comparisons are therefore strictly "before ASAP-after ASAP" in nature. Attempts to implement random assignment procedures, particularly in the assignment of clients to treatment groups, met with resistance from court counselors and the court. The comparisons among treatment, referral, and diagnostic subgroups are thus confounded due to the known dissimilarity in makeup of the various subgroups examined. The conclusions drawn thus must be reviewed with these differences in mind.

4. RESULTS

4.1 BASELINE TO PROGRAM COMPARISON

Recidivism was defined by two criteria, DUII or Impaired offenses, and alcohol-related crashes. The more general measure, an AR incident, was defined by either an AR offense, an AR crash or the combination of the two. All such incidents must have occurred after the sentence date of the drunk-driving offense which brought the individual into the population but prior to the end of the two year period under study for each population. Because no randomly-selected control group could be established for the ASAP population, persons arrested during the previous two years (the baseline of 1969-70) have been used as a comparison group.

The DUII/Impaired driving recidivism rates for the baseline and program populations appear in Table 4.1. Henceforth the label for DUII/Impaired driving offenses will appear as DUII although both this offense and the offense of Impaired are included. Parentheses indicate the percentage within the population or population subgroup which recidivated.

TABLE 4.1. DUII RECIDIVISM RATES FOR BASELINE AND PROGRAM POPULATION

	<u>Recidivists</u>	<u>Non-recidivists</u>
Baseline	66 (6.3)	989 (93.7)
Program	84 (5.4)	1472 (94.6)

$$x^2 = .703 \quad df=1 \quad p > .05$$

Although the proportion of recidivists within the program population (5.4%) is lower than for the baseline (6.3%), the differences between the two proportions are not large enough that they could not have occurred by chance.

Recidivism rates, using AR crashes, present a more positive picture when the two populations are compared (see Table 4.2).

TABLE 4.2. AR CRASH RATES FOR BASELINE AND PROGRAM POPULATIONS

	<u>Recidivists</u>	<u>Non-recidivists</u>
Baseline	45 (4.3)	1010 (95.7)
Program	41 (2.6)	1515 (97.4)
$\chi^2=4.748$	df=1	p=.02

Of the baseline population, 4.3% were involved in AR crashes as compared to 2.6% of the program group. The differences in the proportions are statistically significant at the .02 level.

Although one does not expect that without the ASAP, the proportion of the program population having AR crashes would have been exactly that of the baseline population, the figures can be illustrative. If 4.3% of the program population had had an AR crash, this would have resulted in 66.9 such crashes, or 4.3% of 1556. In fact, there were 41 AR crashes or 26 less than might have occurred.

Non-fatal alcohol-related crashes, when averaged over the past five years in Washtenaw County, involve property damage only in 52% of the cases and personal injury in 48% of the cases.* If one accepts the assumption that the Michigan wide accident experience of Washtenaw County residents would produce approximately the same proportion of property damage/personal injury crashes as reported within Washtenaw County, one might then expect that of the potential 26 crashes, 12.5 would have involved injury, and 13.5 property damage only. The societal costs per accident have been estimated by NHTSA as being \$11,200 per injury accident and \$500 per property damage accident.** Applying these estimates to the local experience, they suggest a possible savings in crash prevention of \$146,750 over the two years. (The crash figures are, however, based on an average of ten months individual driving

*Clearly, a much larger proportion of AR crashes involve personal injury than do non-AR crashes (34%).

**Societal Costs of Motor Vehicle Accidents, preliminary report, NHTSA #HS 820 185.

exposure rather than the full 24 months of driving exposure possible only for a small proportion of clients.)

It would be rather difficult to closely estimate the cost to the program for each offender, as this is influenced by such factors as whether or not a referral is made, the type of treatment and the proportion of administrative and other costs which are directly related to the clients in the program rather than to the general public or other program activities. The combined costs of the administrative, enforcement, judicial and treatment components of ASAP,* when divided by the total number of cases which were handled by the ASAP (at least insofar as they were arrested and disposed of) produces a very gross cost of \$338 per offender, or \$525,928 for the 1556 persons on whom the driving record analysis was done. Although this is 2.6 times more than was possibly saved in crash prevention, the potential savings would certainly increase over time if this group continued to have an improved crash experience, and of course, it would increase if the crash experience reflected other changes, such as improved employment, which have not been calculated in this illustrative example.

Recidivism, as measured by an alcohol-related incident (either a drunk driving conviction or an AR crash) largely reflects a combination of the DUIL and AR crash experience of the previous two tables, since only ten individuals in both populations had both a DUIL and an AR crash. Table 4.3 presents this measure of recidivism, indicating that 9.6% of the baseline group and 7.4% of the program group had a subsequent alcohol-related incident within the time period. The differences in the proportions are statistically significant, indicating that 95 times out of 100 these reflect an actual difference in the true proportions. The fact that only ten individuals in the two populations had both types of AR incidents, suggests that these two measures largely define different population subsets.

*WCASAP Final Report, Washtenaw County Health Department, October 1973.

TABLE 4.3. ALCOHOL-RELATED INCIDENT RECIDIVISM FOR
BASELINE AND PROGRAM POPULATIONS

	<u>Recidivists</u>	<u>Non-recidivists</u>
Baseline	101 (9.6)	954 (90.4)
Program	115 (7.4)	1441 (92.6)
$\chi^2=3.665$	df=1	p=.05

As noted in the Methodology section, the mean driving exposure time for the baseline and program group was very similar (9.8 and 10.1 months respectively). The distribution of months of driving exposure differed solely because of the differences in the proportion of the two populations which had no exposure, i.e., sentenced during the last month or after the analysis period. The preceding analyses have used, as the basis of comparison, the total population, including the 173 baseline cases and 152 program period cases who had zero exposure and therefore no chance to recidivate within the time period.

In the following tabulation (Table 4.4) these cases whose sentence date was in the last month have been excluded, thus holding exposure constant for the two population subsets. The results are consistent with those based on the total populations. The proportion of DUIL recidivists within the two groups is not significantly different at the 95% level of confidence although the proportion was lower for the program period group. The proportions of AR crash recidivists and of AR incident recidivists are significantly different and favor the program period.

4.2 RECIDIVISM RATES WITHIN TREATMENT GROUPS

The criteria by which persons enter the various treatment programs differ as noted in the report on pre-sentence investigation results. Of individuals referred to the ASAP, those with the most serious drinking problems tend to be placed in the Antabuse program, those with less serious problems are on general probation, followed by classes, and then, legal sanctions only (nearly all persons receive legal sanctions irrespective of other treatments).

TABLE 4.4. RECIDIVISM RATES FOR BASELINE AND PROGRAM PERIOD EXCLUDING CASES WITH NO DRIVING EXPOSURE AFTER FIRST SENTENCE DATE

	<u>Recidivists</u>	<u>Non-recidivists</u>
<u>DUIL Conviction</u>		
Baseline	66 (7.5)	816 (92.5)
Program	84 (6.0)	1320 (94.0)
<u>AR Crash</u>		
Baseline	45 (5.1)	837 (94.9)
Program	41 (2.9)	1363 (97.1)
<u>AR Incident</u>		
Baseline	101 (11.5)	781 (88.5)
Program	115 (8.2)	1289 (91.8)
DUIL Recidivism	$\chi^2=1.751$	df=1 p>.05
AR Crash Recidivism	$\chi^2=6.533$	df=1 p=.01
AR Incident Recidivism	$\chi^2=6.354$	df=1 p=.01

In the following tables appear the distributions of persons by treatment received on first offense and the proportion of each treatment group which recidivated. Comparisons have not been made between baseline and program period treatment groups as criteria for entry differed so greatly between the two time periods. Recidivism rates by treatment subgroup for the baseline period appear in Appendix A. However, 79% received legal sanctions only as compared to 32% of the program period population. Even so the trends are similar, with the highest recidivism rates occurring among those receiving legal sanctions only in both time periods.

TABLE 4.5. DUIL RECIDIVISM RATES BY TREATMENT GROUPS FOR PROGRAM PERIOD POPULATION

	<u>Antabuse (A)</u>	<u>General Probation (GP)</u>	<u>Classes (C)</u>	<u>Legal Sanctions (LS)</u>
Recidivist	20 (5.6)	15 (4.0)	4 (1.3)	45 (8.9)
Non- recidivist	339 (94.4)	357 (96.0)	316 (98.7)	460 (91.1)
A vs GP		$\chi^2=.641$	df=1	p>.05
A, GP vs C		$\chi^2=6.838$	df=1	p<.001
A,GP,C vs LS		$\chi^2=17.057$	df=1	p<.001
A,GP,C,LS		$\chi^2=24.363$	df=3	p<.001

As can be seen from Table 4.5, DUI recidivism rates differed significantly by treatment group. The largest contribution to chi square came from the comparison of the ASAP-sponsored treatments (A, GP and C) when compared to Legal Sanctions (LS) only. Antabuse and General Probationers also differed from those in Classes (higher recidivism rates) while there were no differences between Antabuse and General Probationers.

TABLE 4.6. ALCOHOL-RELATED CRASH RATES BY TREATMENT GROUP FOR PROGRAM PERIOD POPULATION

	Antabuse	General Probation	Classes	Legal Sanctions
Recidivist	6 (1.7)	12 (3.2)	4 (1.2)	19 (3.8)
Non-recidivist	353 (98.3)	360 (96.7)	316 (98.7)	486 (96.2)
A vs GP		$x^2=1.248$	df=1	p>.05
A,GP vs C		$x^2=1.060$	df=1	p>.05
A,GP,C vs LS		$x^2=3.082$	df=1	p>.05
A,GP,C,LS		$x^2=6.700$	df=3	p>.05

Although persons receiving legal sanctions had a slightly higher recidivism rate in terms of AR crashes, the differences in AR crash rates for the total population and by treatment group were not statistically significant at the .05 level of confidence.

Because of the effect of DUI offenses on the alcohol-related incident comparison (Table 4.7), differences by treatment group were statistically significant. Within treatment comparisons gave similar results to those noted for Table 4.5.

4.3 RECIDIVISM RATES BY REFERRAL STATUS

Three quarters of the Michigan resident DUI offenders were referred to the ASAP for a pre-sentence investigation drinking diagnosis and treatment recommendation. Insofar as any selection takes place which might influence recidivism rates of referred and non-referred individuals, it is thought to work in the referrals disfavor. As a general rule, persons who are known by the court to

TABLE 4.7. ALCOHOL-RELATED INCIDENT RECIDIVISM BY TREATMENT GROUP FOR PROGRAM PERIOD POPULATION

	Antabuse	General Probation	Classes	Legal Sanctions
Recidivist	24 (6.7)	26 (7.0)	7 (2.2)	58 (11.5)
Non-recidivist	335 (93.3)	346 (93.0)	313 (97.8)	447 (88.5)
A vs GP		$\chi^2=0.000$	df=1	p>.05
A,GP vs C		$\chi^2=8.507$	df=1	p<.01
A,GP,C vs LS		$\chi^2=17.437$	df=1	p<.001
A,GP,C,LS		$\chi^2=25.375$	df=3	p<.001

have drinking problems or previous alcohol-related offenses are more likely to be referred than are those who do not appear to have such problems.

Although possible selection factors affecting referral rates are undocumented, the recidivism rates indicate that those referred to the program did significantly better than non-referred clients with regard to DUIL recidivism (see Table 4.8). The proportion of referred cases with subsequent AR crashes was lower than for non-referred cases (2.2% compared to 4.0%) although these differences could have arisen by chance. With regard to AR incidents, the differences in the proportion of recidivists were statistically significant and were favorable for referred cases.

TABLE 4.8. RECIDIVISM RATES FOR REFERRED AND NON-REFERRED CASES (PROGRAM PERIOD POPULATION)

	Referred (N=1177)	Non-referred (N=379)
DUIL Recidivists	48 (4.1%)	36 (9.5%)
AR Crash Recidivists	26 (2.2%)	15 (4.0%)
AR Incidents	70 (5.9%)	45 (11.9%)
DUIL Recidivism	$\chi^2=15.449$	df=1 p<.001
AR Crash Recidivism	$\chi^2=2.770$	df=1 p>.05
AR Incident Recidivism	$\chi^2=13.856$	df=1 p<.001

TABLE 4.9. RECIDIVISM RATES BY DRINKING DIAGNOSIS (PROGRAM PERIOD POPULATION REFERRED TO ASAP)

	Alcoholic N=236	Problem Drinker N=388	Pre-alcoholic* N=113	Non-problem Drinker N=393	Not Diagnosed* N=47
DUIL Recidivists	16 (6.8)	16 (4.1)	3 (2.7)	11 (2.8)	2 (4.3)
AR Crash Recidivists	7 (3.0)	6 (1.5)	2 (1.8)	10 (2.5)	1 (2.1)
AR Incident Recidivists	21 (8.9)	22 (5.7)	4 (3.5)	20 (5.1)	3 (6.4)

*Not included in significance tests, expected values less than five.

DUIL Recidivism	$\chi^2=5.787$	df=2	p=.05
AR Crash Recidivism	$\chi^2=1.570$	df=2	p>.05
AR Incidents Recidivism	$\chi^2=3.979$	df=2	p>.05

4.4 RECIDIVISM RATES BY DRINKING DIAGNOSIS

The recidivism rates by drinking diagnosis appear in Table 4.9. Included in the table are a small number of cases who were referred but not diagnosed. The remainder of the 1556 individuals not shown on the table appear under "non-referred" in Table 4.8.

There were significant differences in the proportion of recidivists by diagnostic category when measured by DUIL offenses. However, the proportion of AR crash or AR incident-involved persons did not differ significantly by diagnosis.

4.5 COMPLIANCE WITH ANTABUSE PROGRAM REQUIREMENTS

As noted in the Introduction, the Antabuse program was conducted using both blood testing and supervised administration to insure compliance by the client. Five hundred seventy-one persons were supposed to begin the Antabuse program between 1971 and 1972, as indicated in Table 4.10. Compliance results were available on 531 persons, 115 of whom were on the program while only blood testing procedures were in effect, 140 of whom were under supervised administration only, and 276 of whom participated in both methods. The major difference between the two procedures was that the former involved weekly visits for blood withdrawal while the latter, for most clients, involved twice-weekly supervised administration.

TABLE 4.10. DISTRIBUTION OF PERSONS REQUIRED TO PARTICIPATE IN ANTABUSE PROGRAM BY AVAILABILITY OF COMPLIANCE RESULTS*

Results Available	531
Never Participated in Program	
Reason Not Known	21
Chose Jail Instead	3
Received Early Medical Release	6
Results Not Known	<u>10</u>
Total Cases	571

*Cases for whom results were not available, 21 of whom had no known release from the Antabuse requirement, are not included among absentee totals in Table 4.11. The six cases receiving medical releases do not include the total number of medical releases obtained. Total cases include only those clients who were to begin Antabuse by December 1972.

The two methods have been compared for compliance in terms of the attendance records of clients (see Table 4.11). Because the blood test was found to produce false positives, these data were of little use in judging whether or not clients were actually drinking while on the program. Persons who never participated* in either procedure comprised an equal and small proportion of the groups (1.5% and 1.6%). However there appear to be major differences in compliance rates for those who did participate to some extent. (Compliance percentages for blood testing are the number of times client appeared for a blood test by the number of appearances scheduled (usually one time per week) or, for Antabuse administration, the number of times the administration was verified (usually by Washtenaw Council on Alcoholism staff, court personnel or employers) by the number of scheduled appearances.

Attendance records under the blood testing procedure were relatively good - 60.4% of the clients were present for 70% or more of their required appearances, 35% of the clients came between 90% and 100% of the time. Attendance records become much poorer under supervised administration - 87.9% appeared less than one-half the time, and only 1.9% were present 70% or more of the time.

The inferences to be drawn from these attendance records are rather difficult to make. Compliance rates may have been good while the blood testing program was in effect, either because of the weekly, rather than twice-weekly nature of the test, or because clients were able to continue drinking undetected. The poor attendance under supervised administration may be due primarily to the greater time requirements of twice-weekly visits, or it may be because clients could not continue drinking and still appear for the administration. If attendance had been better

*Twenty-one additional persons who never participated (see Table 4.10) were not included in the absentee totals since no determination could be made on the number of appearances which should have been scheduled under each procedure.

TABLE 4.11. COMPARISON OF COMPLIANCE RATES BY MONITORING METHOD FOR ANTABUSE PROBATIONERS

Percent Present for Scheduled Appearances	Blood Test		Method	Supervised Administration		
	Cases	%		Cases	%	
0 (never appeared)	6	1.5		7	1.6	
1-9%	12	3.0	20.5%	78	18.7	87.9%
10-19%	13	3.3		78	18.7	
20-29%	19	4.8		76	18.2	
30-39%	23	5.9		64	15.3	
40-49%	14	3.5	17.0%	71	17.0	8.1%
50-59%	32	8.1		26	6.2	
60-69%	35	8.9		8	1.9	
70-79%	43	10.9	60.4%	5	1.2	1.9%
80-89%	57	14.5		1	0.2	
90-100%	137	35.0		2	0.5	
Total*	391	99.4		416	99.5	

*Includes 531 cases; 115 on blood testing only, 140 on administration only and 276 on both methods.

under both monitoring methods, one would have expected lower recidivism rates for this treatment group than were in fact evidenced.

4.6 ATTENDANCE AT EDUCATIONAL CLASSES

The attendance records of clients in the two primary ASAP educational courses appear in Table 4.12. Attendance for most students is court ordered; a small number of multiple offenders were assigned to both classes on different offenses.

There were 1195 persons sentenced to either the AES or EPP course, or approximately one-third of those convicted of the drunk driving or Drunk & Disorderly charges by the end of 1972. The attendance records of those in AES were somewhat better than for EPP students. Seventy-three percent of the AES students completed the course while an additional 11% were excused, compared to 66% completed and 10% excused from the EPP course. Of

TABLE 4.12. ATTENDANCE RECORDS OF PERSONS SENTENCED TO ALCOHOL EDUCATION SERIES (AES) OR EDUCATIONAL PROGRAM FOR PROBATIONERS (EPP)

Attendance	AES	EPP	Both AES & EPP (multi offenders)	Volunteer
Completed	455 (73%)	367 (66%)	4 (21%)	4 (100%)
Did Not Complete	99 (16%)	129 (23%)	6 (32%)	
Excused	65 (11%)	55 (10%)	1 (5%)	
Died	1 (0)	4 (1%)		
Jail	0	0		
Completed One of Two Courses	--	--	8 (42%)	
Total*	620 (100%)	556 (100%)	19 (100%)	4 (100%)

*Includes 1199 persons arrested by December 1972 and sentenced to course by March 1973.

TABLE 4.13. ATTENDANCE RECORDS OF PERSONS ASSIGNED TO HUMAN BEHAVIOR AND EMOTIONS (HBE) SERIES

Attendance (# of classes)	Court Ordered	Volunteer
None	2	0
1	2	1
2	0	1
3	3	0
4	2	2
5	7	1
6	12	0
Excused	3	0
Total*	31	5

*In addition, the spouse of a client attended the series partially in 11 cases, and completed the series in four cases.

those multiple offenders sentenced to both courses, 63% completed either one or both of the required courses.

The Human Behavior and Emotions (HBE) course was assigned to far fewer students (see Table 4.13). Thirty-one clients were under court order to attend, while five clients volunteered. The spouse of a client attended fully or partially in 15 cases. Only 12 clients, or one-third of those expected to attend, completed the series. Given the staff time needed to set up and conduct the series and the small number of clients reached, it is unlikely that the course was cost beneficial. No data are available on whether clients attending the course made greater use of community treatment resources.

5. SUGGESTIONS FOR FURTHER RESEARCH

The recidivism analyses presented in the foregoing section by no means exhaust the existing possibilities for research using the driving records of ASAP clients. The present research has been limited by two basic time constraints: (1) the short time available to conduct analyses due to the necessity of collecting driver records as late as possible so that crashes and violations appearing on the record covered the period through 1972, (2) the absence of lengthy driving exposure due to the fact that so little time has elapsed since clients completed the program.

Two major categories of possible research exist which could further enhance either the recidivism analyses or driving record analyses of alcohol-related offenders.

5.1 EXPAND THE SCOPE OF THE ANALYSES USING DATA WHICH ARE PRESENTLY AVAILABLE

A much larger body of data are available in the ASAP client files and on driving records than has been utilized to date. The present research has suggested that, for the most part, individuals who are AR crash recidivists are not also DUIL violation recidivists and vice versa. Demographic and other data are available which could conceivably further describe or identify subgroups of particular concern among the larger population of arrestees.

Data in the report on pre-sentence investigations have suggested that persons who received convictions for DUIL tended to have more serious drinking problems than did those convicted for the Impaired offense. Given that the two groups might differ, in the same sense that subgroups appeared to differ by drinking diagnosis, recidivism by the particular alcohol-related charge should be investigated.

Although AR recidivism was the evaluation criterion for treatment analyses, data are available on non-alcohol related

crashes and violations which could further add substance to the driving history of these offenders.

All analyses presented in Section 4 focussed on the alcohol-related experience of offenders subsequent to their entry into treatment (i.e., the first DUIL offense occurring in Washtenaw County). However all driving records presently available summarize driving history back through 1967. For the baseline group this includes a minimum of two additional years of driving history, and for the program period group, a minimum of four years of prior driving history. The pre- and post comparison for both populations, particularly the non-referred cases, is an additional analysis which would add credence to the recidivism findings.

Persons who had no drunk driving convictions in Washtenaw County but who had Drunk & Disorderly convictions were not included in the driving record analyses, partially for lack of a comparison group and secondly for lack of time. Statewide driving records are available for many of these individuals (730 of the 1033 cases) and could possibly be used to identify subsets which are high risk individuals in terms of alcohol-related driving incidents. Similarly, the pre and post treatment analysis would be useful in terms of further evaluating the ASAP activities in which D&D offenders participated.

5.2 EXPAND THE TIME PERIOD COVERED IN DRIVING HISTORY ANALYSES

Due to the time lag involved before an incident, particularly a crash, appears on the driving record, the present analysis terminated with data through 1972. Because of treatment entry dates, this produced an average of ten months driving exposure after entry into first treatment. This is admittedly a very short period, particularly when program effects may be delayed or may be temporary. Further this does not permit analysis of the post treatment period (as distinguished from during - treatment) for individuals who were either on one year of general probation or in the Antabuse program for 18 months. Thus many questions are left unanswered regarding the long-term driving experience of the population in general, and the experience of cases whose close supervision has ended in particular.

APPENDIX A

SUMMARY COMPARISONS BETWEEN BASELINE PERIOD
POPULATION AND PROGRAM PERIOD POPULATION BY
RECIDIVISM MEASURE, TREATMENT SUBGROUP AND
AVERAGE INCIDENTS PER RECIDIVIST

Baseline PopulationProgram Population

N=1055

N=1556

	<u># Recidivists</u>	<u>% of N</u>	<u>Mean</u>
DUIL	66	6.3	7.2
ARC	45	4.3	8.0
ARI	101	9.6	7.3

	<u># Recidivists</u>	<u>% of N</u>	<u>Mean</u>
	84	5.4	6.7
	41	2.6	7.2
	115	7.4	6.9

Treatment on 1st Sentence

	<u>N</u>	<u>(%)</u>		
Antabuse	N=54	(5.1%)		
DUIL	3	5.6	10.0	
ARC	1	1.9	2.0	
ARI	4	7.4	8.0	

	<u>N</u>	<u>(%)</u>		
	N=359	(23.1%)		
	20	5.6	8.5	
	6	1.7	8.0	
	24	6.7	8.8	

	<u>N</u>	<u>(%)</u>		
General Probation	N=140	(13.3%)		
DUIL	9	6.4	6.0	
ARC	5	3.6	5.2	
ARI	9	6.4	5.4	

	<u>N</u>	<u>(%)</u>		
	N=372	(23.9%)		
	15	4.0	5.9	
	12	3.2	6.0	
	26	7.0	6.2	

	<u>N</u>	<u>(%)</u>		
Classes	N=24	(2.3%)		
DUIL	0	0		
ARC	0	0		
ARI	0	0		

	<u>N</u>	<u>(%)</u>		
	N=320	(20.6%)		
	4	1.3	8.3	
	4	1.3	5.5	
	7	2.2	6.9	

	<u>N</u>	<u>(%)</u>		
Legal Sanctions	N=837	(79.3%)		
DUIL	54	6.5	7.3	
ARC	39	4.7	8.5	
ARI	88	10.5	7.5	

	<u>N</u>	<u>(%)</u>		
	N=505	(32.5%)		
	45	8.9	6.0	
	19	3.8	7.8	
	58	11.5	6.4	

Average Incidents Per Recidivist

	<u>DUIL</u>	<u>ARC</u>	<u>ARI</u>
Recidivists	66	45	101
# Incidents	72	49	121
Incidents/ Recidivist	1.09	1.09	1.20

	<u>DUIL</u>	<u>ARC</u>	<u>ARI</u>
	84	41	115
	94	44	138
	1.12	1.07	1.20

NOTE:

DUIL = DUIL or Impaired Driving Conviction.

ARC = Alcohol-Related Crash.

ARI = Alcohol-Related Incident (either an AR conviction, an AR crash, or both)

Mean = Mean time from first sentence date to next AR incident.

If an individual has two or more AR incidents subsequent to first sentence date, they are not included in the mean.