

FINAL REPORT

RECIDIVISM RATES AS A MEASURE OF THE EFFECTIVENESS OF  
THE REHABILITATION AND TREATMENT COUNTERMEASURE  
OF THE FAIRFAX, VIRGINIA, ASAP, 1972

by

Cheryl W. Lynn  
Research Assistant

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INTRODUCTION

The National Highway Traffic Safety Administration of the U. S. Department of Transportation sponsors comprehensive alcohol countermeasure projects in 35 selected communities. The Fairfax, Virginia, Alcohol Safety Action Project (ASAP) is one of these, and is designed to reduce the incidence of drunken driving and alcohol related crashes, injuries, and fatalities by directing comprehensive campaigns against drunken drivers. The four basic countermeasures are enforcement, adjudication, public information and education, and rehabilitation and treatment. This report is concerned with the effectiveness of the rehabilitation and treatment countermeasure during the first year of the project, 1972.

The goal of the ASAP is not only to change the pattern of alcohol related fatalities and reduce the number of crashes, but also to deal with the basis for these occurrences — the drinking patterns of the drivers involved. Recidivism, while it does not directly measure the changes in the drinking habits of the participants in the ASAP rehabilitation and treatment programs, nor other "side effects" of the project, is the most logical and objective evaluation measure for determining the success of the countermeasure and the several treatment modalities.

For the purposes of this evaluation, the rehabilitation methods employed in the ASAP were divided into four groups, and in this report are referred to by abbreviations. They are:

DIS (The Fairfax Driver Improvement Schools) — The DIS consist of an eight-week course taught by instructors at Northern Virginia Community College and the Fairfax County Public Schools. The course is well organized and leans heavily on audiovisual materials and class response. It is designed for social drinkers. Each class of 15 students meets two hours weekly.

AC (The Community Alcohol Center Clinic of the Division of Alcohol Services) — The AC program is designed for problem drinkers. Ongoing treatment includes chemotherapy and psychotherapy, as well as group counseling and couple therapy.

FACE (The Fairfax Alcoholism Continuing Evaluation) — The FACE is a 10-week course, taught mainly by probation officers. The program was initially designed to assist in the diagnosis of problem drinkers and therefore is essentially nondiscriminative as to the classifications of drinkers it handles. Class size often approaches 50 students and the course borrows heavily from the traditional approach used by Alcoholics Anonymous. The class meets two hours weekly.

MHC (The Fairfax - Falls Church Mental Health Center) — THE MHC is a diagnostic center.

It should be noted that the MHC is primarily a diagnostic and evaluative unit and for purposes of this evaluation is not treated as a separate rehabilitation modality unless otherwise stated. Those subjects referred to the MHC were subsequently referred to other treatment groups, and as recidivists are charged to those groups.

### PURPOSE

The purpose of this evaluation was to determine the effectiveness of the several rehabilitation modalities in use in the Fairfax ASAP as measured by the rate of recidivism among program participants.

### METHODOLOGY

The original purpose of this analysis was to prepare and explain Table 15, Appendix H of the ASAP Annual Report (see Appendix). It was felt, however, that Table 15, while it does present a segment of the data accurately, does not present some other important information. It is not always clear in presentation and does not allow for data from more than seven modalities. The table also requires that the same seven modalities be presented across quarters. In addition, it disregards repeated recidivist arrests during the year, an essential indicator of serious social problems and often a sign of incorrect classification or mis-referral for treatment.

Two sets of tables were then constructed. One was organized by quarter of entry into the various programs of rehabilitation, and the other by quarter of original arrest. Both present initial and repeated recidivist arrests and allow for substitution of different modalities. While these tables represent the data accurately, they do not lend themselves to immediate interpretation or overview.

Traditional rates of recidivism for the major modalities were computed, but did not meet the requirements for this analysis. In the traditional percentage method, the total number of actual recidivists is divided by the total number of possible recidivists, or the number of subjects in rehabilitation. However, all subjects in the ASAP did not have an equal probability of becoming recidivists, since this varies as a function of the time remaining in the year in which the subject could be rearrested (the closing

date for data in this report was December 31, 1972). Therefore, a true annual rate was devised by weighting the number of subjects in rehabilitation in each quarter with the mean percentage, in years, of the time remaining for them to be re-arrested. The actual number of recidivists is divided by this figure to yield the true rate. This procedure was used with data for each major modality and for one no-treatment group.

One major problem encountered in this study was the lack of adequate control groups, but in spite of this, some relative inter-group comparisons were made. The main analysis, however, will be made in the next several years, using 1972 data as a baseline for comparison.

### ANALYSIS

Tables 1-8 show the distribution of recidivists among the various rehabilitation modalities for the first year of the project. Tables 1-4 represent the data organized by the quarter in which the subjects began rehabilitation. In quarter one, the program was still being organized. While many subjects had been arrested, very few had actually entered a rehabilitation program (n = 52). Of these, only six were rearrested during the first year, one in the first six months and five in the second. Two had attended the DIS, one, a combination of the DIS and FACE, and three, a combination of the AC and FACE programs. One of the subjects was rearrested a second time (see Table 1).

TABLE 1

#### RECIDIVISTS BY REHABILITATION PROGRAM Those Beginning Rehabilitation in Quarter 1

	DIS	FACE + DIS	FACE + AC	Number Having Begun Program
(A) First Recidivist Arrest	2	1	3	6
Quarter 1 - Quarter 2	1	0	0	1
Quarter 3 - Quarter 4	1	1	3	5
(B) Second Recidivist Arrest	0	1	0	1
Quarter 3 - Quarter 4	0	1	0	1
Original Arrest				
Quarter 1	2	1	3	6

The largest group of recidivists were those who began treatment in the second quarter, 48 of a possible 709. All categories of rehabilitation were represented, along with many combinations of treatment. Of these, the FACE program was charged with the most recidivists (18), followed by the DIS (12) and the AC (7). The combination of the FACE and AC programs reported six recidivists and the rest were evenly dispersed among the remaining categories (see Table 2). Only two of these subjects were rearrested a second time, one from the FACE program and one from a combination of the FACE and AC programs. One subject was arrested a third time.

TABLE 2  
 RECIDIVISTS BY REHABILITATION PROGRAM  
 Those Beginning Rehabilitation in Quarter 2

	DIS	AC	MHC	FACE	DIS + AC	FACE + DIS	FACE + AC	FACE + DIS + AC	Number Having Begun Program
(A) First Recidivist Arrest	12	7	1	18	1	2	6	1	48
Quarter 1 - Quarter 2	1	1	1	4	1	0	2	0	10
Quarter 3 - Quarter 4	11	6	0	14	0	2	4	1	38
(B) Second Recidivist Arrest	0	0	0	1	0	0	1	0	2
Quarter 3 - Quarter 4	0	0	0	1	0	0	1	0	2
(C) Third Recidivist Arrest	0	0	0	0	0	0	1	0	1
Quarter 3 - Quarter 4	0	0	0	0	0	0	1	0	1
Original Arrest									
Quarter 1	6	2	1	8	0	1	5	1	24
Quarter 2	6	5	0	10	1	1	1	0	24

Of those beginning treatment in quarter 3 (n = 773), 19 became recidivists, all in quarters 3 and 4. Ten were from the FACE program, five from the DIS, three from the AC, and one from the MHC (see Table 3). Only one subject was rearrested a second time, that one having attended the FACE.

In quarter 4, of the 935 subjects who entered rehabilitation, 16 were rearrested, all in quarter 4. Ten were in the AC program, and three each in the FACE and DIS (see Table 4). One subject who attended the AC was rearrested a second time. The figure of 16 recidivists may seem in line with the figures in other tables, however, it is actually rather high, since those subjects entering rehabilitation in quarter 4 had an average time of only 1.5 months in which to be rearrested.

TABLE 3

RECIDIVISTS BY REHABILITATION PROGRAM  
Those Beginning Rehabilitation in Quarter 3

	DIS	AC	MHC	FACE	Number Having Begun Program
(A) First Recidivist Arrest	5	3	1	10	19
Quarter 3 - Quarter 4	5	3	1	10	19
(B) Second Recidivist Arrest	0	0	0	1	1
Quarter 3 - Quarter 4	0	0	0	1	1
Original Arrest					
Quarter 2	2	2	1	4	9
Quarter 3	2	1	0	6	9
Quarter 4	1	0	0	0	1

TABLE 4

RECIDIVISTS BY REHABILITATION PROGRAM  
Those Beginning Rehabilitation in Quarter 4

	DIS	AC	FACE	Number Having Begun Program
(A) First Recidivist Arrest	3	10	3	16
Quarter 3 - Quarter 4	3	10	3	16
(B) Second Recidivist Arrest	0	1	0	1
Quarter 3 - Quarter 4	0	1	0	1
Original Arrest				
Quarter 2	1	1	0	2
Quarter 3	1	5	2	8
Quarter 4	1	4	1	6

The data were also organized according to the quarter in which the subject was arrested. These data are presented in Tables 5-8. The distribution of recidivists in each treatment modality remains basically the same — the FACE program claiming the most recidivists, followed by the DIS then combinations involving the FACE and AC, and finally the AC program. The AC program is especially prominent in sets of tables during the later quarters. However, the arrangement by time has shifted, and the heaviest distribution is in the earlier quarters. Quarters 1 and 2 now form the largest groups, with sample sizes of 30 and 37 respectively, followed by quarters 3 and 4.

TABLE 5  
 RECIDIVISTS BY REHABILITATION PROGRAM  
 Those Arrested in Quarter 1

	DIS	AC	MHC	FACE	FACE + DIS	FACE + + AC	FACE + AC + DIS	Number Having Begun Program
(A) First Recidivist Arrest	8	2	1	8	2	8	1	30
Quarter 1 - Quarter 2	2	0	1	3	0	2	0	8
Quarter 3 - Quarter 4	6	2	0	5	2	6	1	22
(B) Second Recidivist Arrest	0	0	0	1	1	1	0	3
Quarter 3 - Quarter 4	0	0	0	1	1	1	0	3
(C) Third Recidivist Arrest	0	0	0	0	0	1	0	1

TABLE 6  
 RECIDIVISTS BY REHABILITATION PROGRAM  
 Those Arrested in Quarter 2

	DIS	AC	MHC	FACE	DIS + AC	FACE + DIS	FACE + AC	Number Having Begun Program
(A) First Recidivist Arrest	10	8	1	15	1	1	1	37
Quarter 1 - Quarter 2	0	1	0	1	1	0	0	3
Quarter 3 - Quarter 4	10	7	1	14	0	1	1	34

These tables yield a great deal of information concerning the dispersion of recidivist arrest, but do not give an adequate and immediate overview. It can be noted that in absolute numbers, the FACE program yielded the highest number of recidivists followed by DIS and AC. These facts are not borne out by the actual percentages of recidivism for each method (FACE = 4.59%, AC = 5.43%, DIS = 2.35%). It was decided, however, that a strict percentage of subjects who were recidivist was somewhat misleading and a new method of analysis was performed.

TABLE 7  
 RECIDIVISTS BY REHABILITATION PROGRAM  
 Those Arrested in Quarter 3

	DIS	AC	FACE	Number Having Begun Program
(A) First Recidivist Arrest	3	6	7	16
Quarter 3 - Quarter 4	3	6	7	16
(B) Second Recidivist Arrest	0	2	1	3
Quarter 3 - Quarter 4	0	2	1	3

TABLE 8  
 RECIDIVISTS BY REHABILITATION PROGRAM  
 Those Arrested in Quarter 4

	DIS	AC	FACE	Number Having Begun Program
(A) First Recidivist Arrest	1	4	1	6
Quarter 3 - Quarter 4	1	4	1	6

Since those subjects who attended all treatment programs during the last quarter of 1972 had less time in which to be rearrested before the end of the year than did those subjects who attended an earlier class (and therefore less probability of becoming a recidivist in this evaluation), it was decided to weight the number of subjects with the average amount of time remaining in the year for each class. For example, if ten subjects attended class during the second quarter of 1972, each of them had an average of  $7\frac{1}{2}$  months, or 62.5% of

one year, in which to become a recidivist. Therefore the total number of subjects would be multiplied by .625 and yield 6.25 as the reduced number of subjects who had a full year in which to become recidivists. If three of these subsequently became recidivists, this number would be divided by 6.25 to yield a true annual rate of 48%. By this method, the weighted rate of recidivism for the DIS is 7.43% (see Table 9).

TABLE 9

RECIDIVISM RATES FOR FAIRFAX DRIVER IMPROVEMENT SCHOOLS, 1972  
(Weighted Sample = 7.43%)

	Total Number Entering DIS Per Quarter		Number Recidivists Receiving Treatment in DIS Per Quarter
	Subjects	Weighted Subject - Years	Subjects
Quarter 1	29 (3%)	25.37	2
Quarter 2	175 (18.6%)	109.37	12
Quarter 3	276 (29.4%)	103.50	5
Quarter 4	463 (49.4%)	57.87	3
Subject Loss*	-7	—	—
Total	936	296.11	22

\* Mainly Geographic in Origin

This procedure was also used for the FACE and AC programs. The true annual rate for the FACE was 14.32%, and for the AC, 12.58% (see Tables 10 and 11). Thus, the FACE program had the highest true rate of recidivism, and it was followed by the AC and the DIS. This is intuitively correct, since the FACE and the AC receive the more serious drinking cases, and the AC gives the more comprehensive treatment. The DIS received mostly social drinkers, who are less likely to be recidivists than are problem drinkers.

TABLE 10

RECIDIVISM RATES FOR FAIRFAX ALCOHOLISM CONTINUING EVALUATION, 1972

(Weighted Sample = 14.32%)

	Total Numbering Entering FACE Per Quarter		Number Recidivists Receiving Treatment in FACE Per Quarter
	Subjects	Weighted Subject - Years	Subjects
Quarter 1	0	0	0
Quarter 2	165 (24.4%)	103.12	18
Quarter 3	194 (28.7%)	72.75	10
Quarter 4	324 (48.0%)	40.50	3
Subject Loss*	-9	-	-
<b>Total</b>	<b>674</b>	<b>216.37</b>	<b>31</b>

\* Mainly Geographic in Origin.

TABLE 11

RECIDIVISM RATES FOR THE FAIRFAX ALCOHOL CLINIC, 1972

(Weighted Sample = 12.58%)

	Total Number Entering the Alcohol Clinic Per Quarter		Number Recidivists Receiving AC Treatment Per Quarter
	Subjects	Weighted Subject - Years	Subjects
Quarter 1	3 (8%)	2.62	0
Quarter 2	176 (47.8%)	110.00	7
Quarter 3	88 (23.9%)	33.00	3
Quarter 4	106 (28.8%)	13.25	10
Subject Loss*	-5	-	-
<b>Total</b>	<b>368</b>	<b>158.87</b>	<b>20</b>

\* Mainly Geographic in Origin.

Another possible comparison group exists as an artifact of the judicial system. Some subjects arrested in connection with the ASAP were referred back to the courts, usually because of more serious offenses or recurring recidivism. It was deemed necessary to suspend these subjects' licenses or somehow penalize them further. This group of subjects, arrested in the Fairfax area and denied entry into the ASAP rehabilitation programs, may be thought of as representative of persons going through usual channels of alcohol enforcement and treatment (see Table 12). A true annual rate of recidivism was compiled for the group and found to be 12.76%, just slightly worse than that of the AC. This figure initially seems to indicate that traditional court procedures are working at least as well as several ASAP modalities. The courts receive the most serious recidivism cases and treat them only with negative reinforcement, so intuitively they should experience the highest rate of recidivism, exclusive of the FACE program. The fact that the rate of the AC program approximates that of the courts could result from the organizational process and does not reflect long- and short-term effects of the modalities. It is well documented that the effect of negative reinforcement declines more rapidly than that of positive reinforcement. As for the FACE program, whose rate exceeds that of the courts, it was felt that this program offers no effective positive or negative reinforcement. Its shotgun approach does not distinguish between social and problem drinkers, does not offer any personalized or intimate classroom attention, and generally lacks direction. The punitive measures offered by the courts are specifically directed and would be more effective for a short period of time.

TABLE 12

RECIDIVISM RATES FOR SUBJECTS REFERRED BACK TO COURT, 1972

(True Annual Rate = Weighted Sample)

	Total Number Referred to to Court		Number Previously Referred to Court
	Subjects	Weighted Subject - Years	Subjects
Quarter 1	35 (15.7%)	30.62	0
Quarter 2	51 (22.9%)	31.87	5
Quarter 3	58 (26.1%)	21.75	3
Quarter 4	78 (35.1%)	9.75	4
Total	222	94.00	12

## DISCUSSION

When the rehabilitation programs were organized, a delay was created between the time of arrest and time of entry into a modality. In each quarter, several subjects for whom treatment had been scheduled were rearrested before entry (see Table 13). (The delay in assignment did decrease significantly the year went on — from an average of 120.3 days in quarter 1 to 47.7 days in quarter 4.) These subjects form a separate group of drinkers whose recidivism rates in later years can be compared with those of subjects attending the treatment programs who experienced less of a delay.

Several testable hypotheses can be formed concerning this group. Most social drinkers are accepted citizens of the community, and see themselves in this light. When arrested for driving while intoxicated, the citizen generally falls under a certain social stigma. This may be in direct conflict with his self-opinion, and may cause a certain amount of cognitive dissonance. In order to rectify this situation, he must to some degree amend his attitude toward himself and toward alcohol. If treatment is not delayed, the ASAP initiated rehabilitation can assist the participant in forming socially acceptable attitudes toward his drinking/driving problems. However, if treatment is not instituted during this highly influential period, the ASAP fails to provide a timely positive reinforcement and the participant may form unacceptable attitudes, form a low self-opinion, or rationalize his behavior, all of which may aggravate his problem. In addition, since the traditional system of enforcement is based on attitudes involving avoidance conditioning (the subject obeys the law in order to avoid paying the consequences, e.g., he doesn't speed so as to avoid paying a fine or going to jail), the lack of prosecution followed by the deferment of rehabilitation responsibilities does not provide any negative reinforcement and may actually encourage drinking. This observation is essentially speculative, but testable, if the recidivism data for the two groups over the next two years are compared.

TABLE 13

## PARTICIPANTS REARRESTED BEFORE BEGINNING REHABILITATION

	Recidivists for Which Treatment Was Scheduled	Mean Delay Before Beginning Treatment
Quarter 1	10	120.3 Days
Quarter 2	3	80.6 Days
Quarter 3	8	59.1 Days
Quarter 4	5	47.7 Days

Other questions that have been raised may be answered through evaluation. (1) Which rehabilitation programs are most effective in handling social and problem drinkers? Comparison of the different modalities is facilitated by the procedure using the true annual rate of recidivism. In addition, changes in the program may be reflected by changes in these rates as compared to the baseline data. (2) What types of

subjects will not benefit from each separate treatment program? By compiling demographic data on those subjects rearrested more than once after entering rehabilitation, one can prepare a profile of participants who do not succeed. These data may be compared with data on those subjects who have been definitely mis-referred under Office of Alcohol Countermeasures criteria. (3) What are the long- and short-term effects of each type of treatment? The effectiveness of each modality may be expressed as a function of the time elapsed between the initial arrest and each successive recidivist arrest. Some treatments may delay a rearrest longer than others, or defer it altogether, while the effectiveness of others may decline in several weeks or months. Also, since the effects of positive reinforcement outlast those of negative reinforcement, the recidivism rate for those subjects referred back to court may increase across time and surpass the rates of other modalities. In addition, the true annual rate of recidivism for all groups may increase across time as the effect of the ASAP intervention declines.

### CONCLUSIONS

In general, although there is much speculation concerning the data used in this evaluation, no absolute or methodologically correct conclusions can be drawn at this time. In order to make such determinations, controls would have to be established, and, as dictated primarily by the legislative system, this is not possible. During the years prior to the beginning of the ASAP, the enforcement of penalties for offenses involving driving while intoxicated was not as strict as it is now. Often, charges would be dropped by the arresting officer because he was aware of the difficulties of proving them and did not want to spend needless hours in court. If the suspect's driving so warranted, the charge would be reduced to reckless driving, which was more easily proven. This attitude in Fairfax County has changed due to the intervention of ASAP.

In addition, legal restrictions prevented the formation of a non-prosecuted, non-treatment group. These conditions do not allow for collection of existing pre-ASAP data for a longitudinal control group, or for collection of non-ASAP data for a parallel control. However, the data in this report may later be used as a baseline from which to detect changes in recidivism over the next several years.

APPENDIX

TABLE 15  
ANNUAL  
REHABILITATION  
PROGRAM  
RECIDIVISTS BY REHABILITATION PROGRAM

TABLE NO. 15A  
PROJECT  
ANNUAL ENDING

	TOTAL #	DIS	AC	MHC	FACE	FACE + DIS	FACE + AC	OTHER
		2	3	4	5	6	7	8
1 NUMBER ENTERING IN Q1	52	29	3	20	0	-	-	-
2 Recidivists in Q1 + Q2	1	1	0	0	0	0	0	0
3 Recidivists in Q3 + Q4	5	1	0	0	0	1	3	0
4 Recidivists in Q5 + Q6	-	-	-	-	-	-	-	-
5 Recidivists in Q7 + Q8	-	-	-	-	-	-	-	-
8 NUMBER ENTERING IN Q2	709	175	176	193	165	-	-	-
9 Recidivists in Q2 + Q3	30	9	4	1*	10	0	5	1
10 Recidivists in Q4 + Q5	18	3	3	0	8	2	1	1
11 Recidivists in Q6 + Q7	-	-	-	-	-	-	-	-
12 Recidivists in Q8 + Q9	-	-	-	-	-	-	-	-
15 NUMBER ENTERING IN Q3	773	276	88	215	194	-	-	-
16 Recidivists in Q3 + Q4	19	5	3	1*	10	0	0	0
17 Recidivists in Q5 + Q6	-	-	-	-	-	-	-	-
18 Recidivists in Q7 + Q8	-	-	-	-	-	-	-	-
19 Recidivists in Q9 + Q10	-	-	-	-	-	-	-	-
22 NUMBER ENTERING IN Q4	949	463	106	56	324	-	-	-
23 Recidivists in Q4 + Q5	16	3	10	0	3	0	0	0
24 Recidivists in Q6 + Q7	-	-	-	-	-	-	-	-
25 Recidivists in Q8 + Q9	-	-	-	-	-	-	-	-

\* Subjects received no treatment other than the Mental Health Clinic.



## ABSTRACT

The rehabilitation countermeasure of the Fairfax, Virginia, ASAP is concerned primarily with four modes of treatment: (1) The Fairfax Driver Improvement Schools, (2) the Community Alcohol Center Clinic of the Division of Alcohol Services, (3) the Fairfax Mental Health Center, and (4) the Fairfax Alcoholism Continuing Evaluation. These programs are run under separate management and each is designed to serve a specific purpose and treat a specific type of drinking problem. This report is concerned with the effectiveness of the programs as indicated by the recidivism rates of the participants.

In the analysis made, data were organized by quarter according to (1) when rehabilitation began, and (2) when a participant was first arrested. A true annual rate of recidivism, adjusted for time available for rearrest, was calculated and found to be adequate for the evaluation.

No definite conclusions could be drawn because adequate control groups were not established. However, future studies are recommended using 1972 data as a baseline for comparison.

