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OUTCOME EVALUATION OF JAIL-BASED DRUG TREATMENT: Effects on Recidivism

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INTRODUCTION

In February 1994, NCCD published a *Focus* describing a process evaluation of five programs providing substance abuse treatment for jail inmates (Tunis, 1994). The following programs[1] were evaluated:

1. Jail Education and Treatment (JET) Program, Santa Clara County, California;
2. Deciding, Educating, Understanding, Counseling and Evaluation (DEUCE) Program, Contra Costa County, California;
3. Rebuilding, Educating, Awareness, Counseling and Hope (REACH) Program, Los Angeles County, California;
4. Substance Abuse Intervention Division (SAID), New York City Department of Correction; and
5. New Beginnings, Westchester County, New York.

This project was undertaken by NCCD (and funded by the National Institute of Justice) with the knowledge that drug arrests have been a major factor in recent increases in jail and prison populations (Austin and McVey, 1989; Blumstein, 1993). The effectiveness of drug treatment programs in jails, where lengths of stay are relatively short, continues to be a source of great interest. Administrators and treatment providers are particularly interested in whether or not these programs are a cost-effective investment.

In the earlier *Focus*, rates of reported infractions for program participants were compared to rates for nonparticipants in comparable housing, and the evidence was clear that the drug programs had very positive effects on institutional behavior. Program costs above those for comparable nonprogram units were also examined. All programs resulted in net additional costs (treatment plus custody staffing) of $2.49 to $41.51 per prisoner per day (excluding program administrative costs).

This *Focus* answers the important question of whether or not these drug treatment programs influenced recidivism in the year following jail release. Recidivism data are presented for a large sample of program participants and matched controls. Subgroups are also compared and conclusions drawn regarding the success of the treatment programs in reducing recidivism for particular offenders (e.g., males vs. females, those who terminated unsuccessfully from the program vs. those who did not). Recidivism by individual treatment site is also examined. Before reporting the outcome results, some important study procedures are described.

PROCEDURES

Selection and Comparability of Study Groups

In most sites, samples of consecutively admitted program participants were interviewed by a program staff member or NCCD researcher at both program admission and release, using standardized forms. If personal interviews were not possible, information was obtained from case files. The admission data were collected to provide *a*) a description of the offenders served, *b*) a basis for comparing treatment and control groups to assure pretreatment comparability, and *c*) a set of "offender" characteristics that could potentially be related to outcome.

The exit forms included dates of release from the program and from jail, as well as information about the type of program termination. In all sites

TABLE 1

RECONVICTION FREQUENCY AND OFFENSE TYPE BY STUDY GROUP

		PROGRAM PARTICIPANTS	CONTROLS
1.	Number of Follow-up Arrests Resulting in Conviction:[1]		
	0	480 (83%)	411 (77%)
	1	70 (12%)	90 (17%)
	2 or More	27 (5%)	35 (6%)
2.	Number of Reconvictions by Offense:		
	Total	109	161
	Person	13 (12%)	21 (13%)
	Property	50 (46%)	77 (48%)
	Drug	46 (42%)	63 (39%)
3.	Average Number of Reconvictions	1.40	1.39
4.	Average Number of Days Until First Arrest (with Conviction)	152	140

[1] $p<.05$

except the REACH program, information on control cases was garnered from corrections agency records. Control cases for REACH were personally interviewed by NCCD research staff at another Los Angeles County jail. Whenever possible, control cases were identified from jail inmates who were eligible for drug treatment, and who entered and exited the jail over the same time period as the sample of treatment participants. Information on drug history and current drug use for control subjects was, however, not available for this evaluation.

Analyses were conducted to demonstrate the comparability of the treatment (n = 722) and control (n = 706) groups regarding sex, race/ethnicity, primary offense, age and length of sentence. Although there were minor differences between groups at some sites, the matching procedures were generally very successful in identifying a comparison group equivalent to the treatment group with respect to these five important characteristics.

Definition of Recidivism

Recidivism was defined as an arrest that subsequently led to a conviction. This definition was used because New York provided only conviction data and the goal was to standardize the outcome variable across sites.[2] The obvious risk to examining conviction data is underreporting arrest activity. To address this issue, an analysis was conducted to compare results obtained using reconviction data with those obtained using rearrest data. Results were strikingly similar, indicating that the vast majority of arrests during the follow-up period resulted in a conviction.

Availability of Rap Sheets

State-level criminal history data (rap sheets) were collected for the treatment and comparison groups. In the three California counties, copies of rap sheets were provided by the three jails. For the two New York sites, computerized data were obtained from the Division of Criminal Justice Services, Bureau of Research and Evaluation. State- rather than county-level data were requested for all sites to capture the most serious arrests reported to the state and arrests occurring outside of the respective counties.

A 12-month cut-off date was determined for each person based on his or her jail release date. Follow-up data were entered (or downloaded), as were arrests and dispositions during the three years prior to jail admission. Rap sheets were available for 86 percent of the total sample, with treatment and control groups having very similar rates of missing data (15 and 13 percent, respectively).

RESULTS

As shown in Table 1, 17 percent of the treatment participants and 23 percent of the controls (for whom data were available) were reconvicted at least once. Thus, controls were significantly more likely than treatment participants to be reconvicted at least once ($p < .05$). The proportion with two or more convictions was almost identical for the two groups. The average number of days until first arrest was also very similar; 152 days (5 months) for treatment participants and 140 days (4.7 months) for controls. Table 1 also shows follow-up convictions for each group by offense types. The majority

of arrests/convictions for both groups were for property crimes or drug crimes. The average number of convictions was 1.4 for both treatment and control groups.

Disposition to Prison

The next outcome examined was the rate at which each group (treatment vs. control) was sentenced to prison following a reconviction. This outcome is important for comparing recidivism costs for each group. For those offenders eligible for a 12-month follow-up, 3.6 percent of the treatment group and 6.2 percent of the control group were sentenced to prison upon reconviction (p=.05). The average sentence length was 2.1 years for offenders who had received jail drug treatment and 2.6 years for those who had not (p=.08).

Ancillary analyses revealed that these results could not be accounted for by differences in the sentencing offense or in prior convictions. Additionally, the two groups had been previously matched for offenses leading to the jail stay under investigation. Thus, the difference in sentencing may be related to a slightly more lenient judicial attitude toward those who had participated in jail drug treatment. In this way, such participation may serve as an indirect diversion from prison.

Probability of Recidivating

To determine whether or not participation in one of the five jail treatment programs affected the *chance* of being reconvicted within the 12-month post-release period, we used a method similar to one used by Teplin, Abram, and McClelland (1994). Controlling for time at risk, we calculated the probability of being convicted for any crime over the 12-month follow-up period.

Table 2 shows probabilities of arrest for the treatment and control groups by study site. The three California sites had better outcomes than did the two New York sites. For the California sites, there is modest yet consistent evidence for jail drug treatment being associated with lower chances of recidivism during the follow-up period.

TABLE 2

PROBABILITY OF RECONVICTION FOR ANY CRIME WITHIN 12-MONTH FOLLOW-UP PERIOD BY STUDY GROUP AND SITE
(ADJUSTED FOR TIME AT RISK)

	ANY CRIME	
	TREATMENT	CONTROL
Total Sample	.16	.22[1]
Los Angeles County	.12	.22[1]
Contra Costa County	.12	.23[1]
Santa Clara County	.18	.31[1]
New York City	.19	.20
Westchester County	.21	.21

[1] In addition to statistical significance, these differences in probabilities between the treatment and control groups are judged to have substantive importance in that they are ≥ 5 percent.

Probabilities were also examined with respect to gender, recent conviction history, age, race/ethnicity, prior drug use, type of program termination and length of time in program (Table 3). There were significant differences between treatment and control cases for both males and females, for those with at least two prior convictions, for those in the "older" age groups and for White and Hispanic offenders. Conversely, the effects of jail drug treatment on recidivism were less apparent for those with fewer than two prior convictions, for those younger than 28 years and for African American offenders. The latter two findings are consistent with results reported in the earlier *Focus* (Tunis, 1994), indicating that "younger" offenders and racial minority offenders were more likely to experience difficulty in treatment (i.e., through premature program termination).

Among those participating in jail drug treatment, program exit type and length of time in program were related to the chance of being reconvicted. Those who quit or were removed from the programs had a five percent greater probability of reconviction, and those who stayed less than one month had a seven to eight percent greater probability. Finally, participants with self-reported poly-drug use were more likely than single drug users to recidivate.

Survival Analysis

In addition to determining the probability of recidivating, we conducted survival analyses for the two study groups. These reveal how many months (or fractions of months) pass after release

TABLE 3

PROBABILITY OF RECONVICTION FOR ANY CRIME WITHIN 12-MONTH FOLLOW-UP PERIOD BY STUDY GROUP AND SELECTED OFFENDER CHARACTERISTICS (ADJUSTED FOR TIME AT RISK)

	TREATMENT	CONTROL
1. Sex:		
Males	.18	.23[1]
Females	.13	.22[1]
2. Prior Convictions: (over 3 year period):		
None	.11	.14
1	.13	.14
2	.18	.32[1]
3 or more	.25	.31[1]
3. Age at Jail Exit:		
18-28 years	.18	.20
29-34 years	.16	.24[1]
35+ years	.15	.24[1]
4. Race/Ethnicity:		
White	.12	.21[1]
Black	.19	.22
Hispanic	.16	.23[1]
5. Prior Drug Use:		
Single Drug Use	.12[2]	NA
Multiple Drug Use	.18	NA
6. Program Exit Type:		
Premature Termination	.20[2]	NA
No Termination	.15	NA
7. Days in Program:		
Less than 1 month	.22[2]	NA
31-60 days	.15	NA
61 or more days	.14	NA

NA = Not Applicable

[1] In addition to statistical significance, these differences in probabilities between the treatment and control groups are judged to have substantive importance in that they are ≥ 5 percent.

[2] In addition to statistical significance, these differences in probabilities for subgroups of treatment participants are judged to have substantive importance in that they are ≥ 5 percent.

from jail (when probability of "survival" is 1.0) before the average offender recidivates (Singer & Willett, 1991; Lagakos, 1992) and answers the question of whether or not those participating in jail drug treatment recidivate later than do controls.

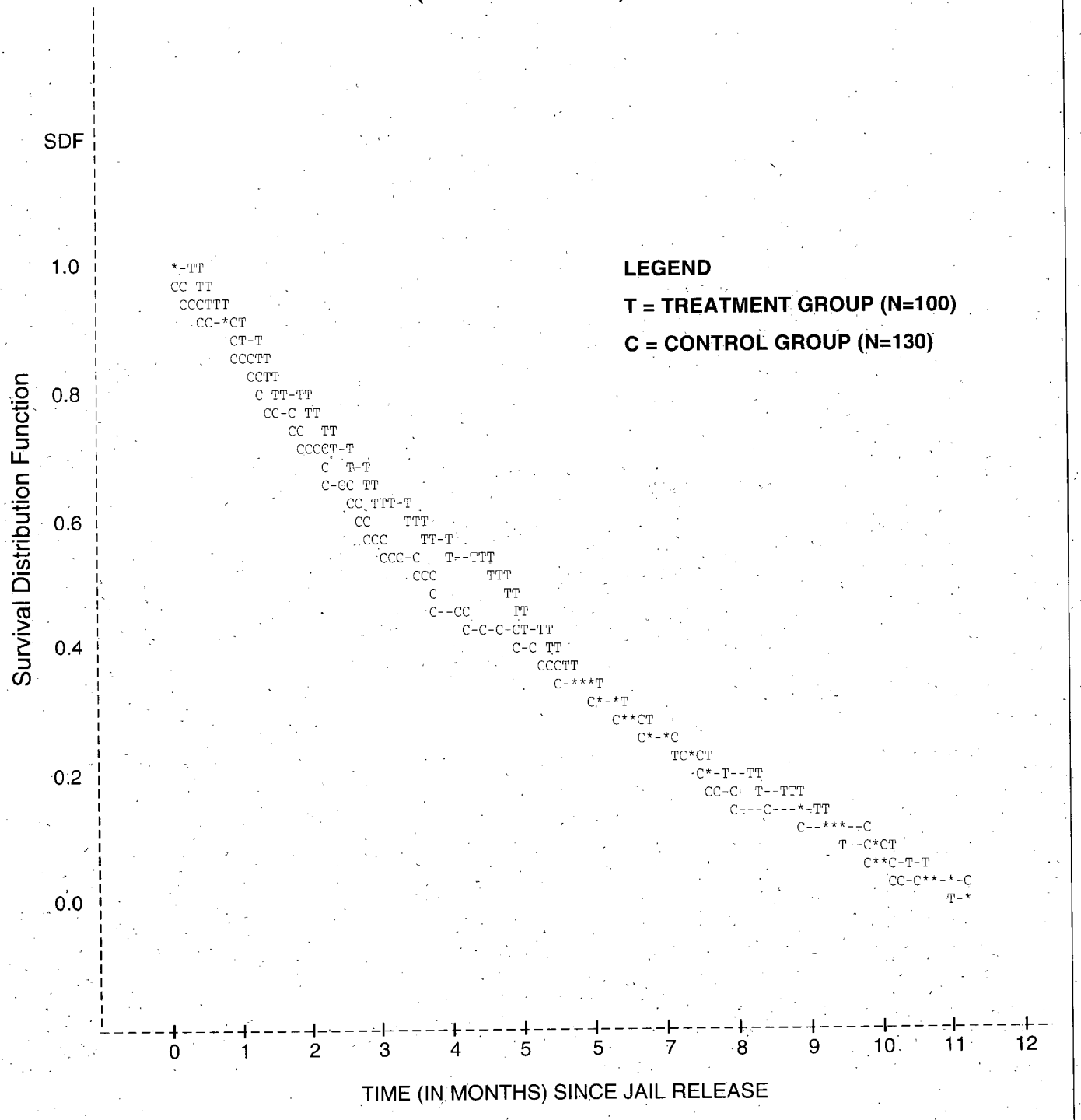
Figure 1 shows the survival distributions for members of the treatment and control groups *who recidivated.*[3] Overall, patterns are quite similar, with 50 percent of treatment recidivists being arrested by 4.86 months and 50 percent of control recidivists by 3.67 months. At slightly past seven months post-release, the vast majority (75 percent) of those in both groups who were going to recidivate within 12 months had done so.

Offender-related characteristics that might influence time-to-arrest were also examined. Survival analyses were done to compare timing of recidivism by sex, prior convictions, age, race/ethnicity and, among treatment participants, type of termination and reported drug use. Patterns did not differ significantly as a function of any of these offender-related variables, indicating that they had little to no effect on timing of recidivism.

The final survival analysis examined time-to-arrest by site. Four of the five sites (REACH, SAID, JET and New Beginnings) had similar patterns. In DEUCE, however, the pattern revealed earlier arrest. One-quarter of the recidivists from DEUCE had been arrested by 1.31 months (compared to a two- to four-month range for other sites) and a full 75 percent by less than 3 months. There were no significant differences by site for controls who recidivated. Thus, those who did not participate in jail drug treatment were rearrested at about the same time after release, regardless of location.

FIGURE 1

**SURVIVAL FUNCTION ESTIMATES:
TREATMENT GROUP VS. CONTROL GROUP
(RECIDIVISTS ONLY)**



Note: The survival distribution function (left axis) is the probability of not being rearrested/reconvicted (i.e., of "surviving").

Log Rank Test: $x^2 = .634$, df = 1, p = .426

SUMMARY AND POLICY IMPLICATIONS

In this report, analyses focused on the important question of whether or not participation in these jail drug treatment programs reduced recidivism during the 12 months following jail release. Results were:

1. Seventeen percent of the treatment group and 23 percent of the controls were reconvicted at least once in the 12-month period.
2. Most offenders were reconvicted for property or drug crimes, and the average time to first arrest was about five months.
3. For the total sample, the probabilities of being reconvicted for any crime were .16 for treatment cases and .22 for controls. The California sites demonstrated the lowest probabilities of recidivism for treatment cases while the two New York sites showed no difference between groups.
4. Drug treatment in jail had the strongest effects on lowering probabilities of reconviction (compared to controls) for those with at least two prior convictions, for "older" offenders and for Whites and Hispanics.
5. Probabilities of reconviction were lower for treatment participants who reported single- rather than poly-drug abuse, for those who did not prematurely terminate from treatment and for those staying in the program for at least one month.
6. Survival functions for the 20 percent who recidivated revealed similar time-to-arrest for treatment and control groups. Half of the recidivists in both groups had been re-arrested by about four months.
7. DEUCE program recidivists were arrested sooner than those from other sites, although the probability of recidivism for DEUCE participants was the lowest of all the sites.
8. Treatment participants may be less likely to be sentenced to prison upon reconviction, and may receive slightly shorter sentences.

It can generally be concluded that these programs had modest positive effects upon probabilities but not upon timing of recidivism within one year of jail release. The reason that the California sites, but not the New York sites, showed lower probabilities of recidivism for treatment participants is not immediately apparent and could be related to a combination of program, system and population characteristics.

The question of whether jail drug treatment programs are cost-effective cannot be answered simply. A variety of factors within each program and setting must be considered. Summarizing results of both the process and outcome portions of this evaluation, the three California sites showed moderate increases in cost per day/per prisoner, substantial reductions in institutional infractions (Tunis, 1994) and modest reductions in recidivism. For one New York program, additional costs of treatment were minimal, as were effects on institutional behavior and recidivism. The other New York site was relatively expensive and had no effects on recidivism, although serious infractions were dramatically decreased within the jail. It appears that the greatest immediate benefit of these programs is in the area of institutional behavior.

The greatest impact of jail-based drug treatment on recidivism was for older offenders, for those with at least two prior convictions and for Whites and Hispanics. Importantly, participants who stayed in programs for fewer than 30 days and those who quit or were terminated from treatment were more likely than other participants to recidivate.

These are important findings with respect to policy. Because the cost-benefit picture is mixed for these programs, much thought should be given to creating the best possible program design (e.g., including culturally and age-appropriate interventions). If resources are invested in drug treatment for offenders in jail, program and administrative personnel should coordinate efforts to allow participation for a minimum of 30 days.

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ENDNOTES

[1] Many changes occurred in both programs and systems during the course of the evaluation. The JET program was defunded and thus discontinued, although a redesigned and renamed program continues. With the closure of the Mira Loma Correctional Facility, the REACH program was terminated, but then was reinstituted at the Sybil Brand Institute in Los Angeles.

[2] Although arrest data are legally available to some individuals (e.g., those in the law enforcement field), the level of access afforded researchers with requirements for linking identifiers includes conviction data only.

[3] A major advantage of conducting a survival analysis is the ability to "censor" the data for those in the sample who do not experience the event of interest (in this case, rearrest resulting in reconviction). However, because 80 percent of this sample "survived" (did not experience the event) during the follow-up period, conducting the analysis for all subjects would not produce a useful or informative result. We elected, therefore, to conduct a survival analysis (which simply compares time-to-event) on the subset who did recidivate. Although not ideal, the approach is statistically sound. A longer follow-up period would obviously allow for a better estimate of outcome for the entire sample.

NCCD Index

- There are now an estimated 1.5 million children of incarcerated parents in the United States.[1]
- NCCD's 1991 survey of 439 women prisoners showed that 9 percent of respondents gave birth while incarcerated.[1]
- Since 1980, the number of women in the nation's jails and prisons has tripled.[1]
- The expansion of the women's prison and jail populations has been fueled primarily by increased rates of incarceration for property and drug offenses and by parole violations — not by commitments for crimes of violence.[1]
- The 1991 NCCD survey of incarcerated women revealed that 54 percent of their children had never visited them in prison or jail.[1]
- The likelihood that individuals will commit crimes of violence between the ages of 21 and 27 is approximately the same as for 12 to 13 year old children.[2]
- There are nearly one million youth aged 12 to 19 years who are victims of violent crimes each year.[2]
- Data suggest that the treatment of juveniles accused of violent crimes is not more lenient in juvenile courts than in adult courts.[2]
- In 1991, African American youngsters were six times more likely to be victims of homicide than were white youth.[2]
- Juvenile custody rates in public and private juvenile correctional facilities increased by 47 percent between 1979 and 1991.[2]
- Minority youth are more likely to be sent to public rather than private correctional facilities and are more likely to be housed in the most secure facilities.[2]

Sources:

[1] Bloom, B., and D. Steinhart. 1993. *Why Punish the Children? A Reappraisal of the Children of Incarcerated Mothers in America.* San Francisco, CA: NCCD.

[2] Jones, M.A., and B. Krisberg. 1994. *Images and Reality: Juvenile Crime, Youth Violence, and Public Policy.* San Francisco, CA: NCCD.

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