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FINAL REPORT OF OUTCOMES FOR THE OZARK CORRECTIONAL CENTER DRUG TREATMENT PROGRAM

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FINAL REPORT OF OUTCOMES FOR THE OZARK CORRECTIONAL CENTER DRUG TREATMENT PROGRAM

I. Introduction

In the Final Report of a Process Evaluation of the Ozark Correctional Center Drug Treatment Program (the companion report of this document), the history of the drug treatment program at Ozark Correctional Center is related. The program was evaluated at the end of the three-year CSAT grant for both its internal operation (process evaluation) and for its effectiveness (outcomes assessment). In that report (Hartmann 1996), several areas of "success" are noted based on the follow-up interviews with men who completed the OCCDTP. Hartmann (1996) reports that men were attending support groups of various kinds, were reporting arrests and flights from parole below what we would expect based on existing national data, and were successful in procuring employment. He also provided us with a first attempt to conduct a systematic comparison of the effectiveness of OCCDTP using a quasi-experimental design, i.e., a comparison or control group selected to match on all pertinent factors the program graduates.

Working with the Missouri Department of Corrections, Hartmann was able to compare graduates of the program who had been released from prison (most of the men in the "treatment" group had been out of prison for only three months). He also noted that the comparison group for this first attempt was somewhat different from the graduates of OCCDTP. They were younger and therefore less likely to be married, and slightly over-representative of African Americans. Age, of course, is a significant difference in interpreting comparison between the two groups. Older men are more likely to respond more positively to treatment and to avoid

relapses than younger men. Nevertheless, the results of the first outcome assessment were quite promising.

Hartmann's figures showed that the comparison group had a 28% arrest or conviction rate in the past three months while the graduates of OCCDTP had a 14% rate. Of the comparison group, 62 % reported no substance abuse within six months of release from prison while 67% of the graduates of OCCDTP reported no substance abuse over the same time period. Finally, 28% of the comparison group was incarcerated compared to 16 % for the graduates. Being appropriately cautious in his interpretation of these data, Hartmann nevertheless concluded that the DTP at OCC did seem to be yielding significant outcomes.

In the post-Martison era, researchers have documented the success of prison-based TC programs in reducing substance abuse and recidivism, particularly when combined with follow-up treatment in the community (Knight, et.al. 1997, Martin, Butzin and Inciardi 1995, Wexler, Falkin, Lipton 1990, Field 1985). Based in part on the early successes of TC programs, a panel of national experts in the fields of corrections, social services, and substance abuse recommended in 1992 that TC programs be implemented in every federal prison and every state prison system (Wexler and Lipton 1993). A recent study that documents this success is the report of the preliminary results for the TRIAD study of federal prisons receiving treatment that shows

Individuals who had received unit-based residential treatment had a lower probability of being arrested in the 6-month follow up period than did comparison subjects. The probability of arrest for individuals who entered and completed treatment was 3.3 % as compared to a probability of approximately 12.1 % for untreated subjects. In other words, among inmates who completed residential drug abuse treatment, only 3.3 % were

likely to be rearrested within the first six months in the community compared to 12.1 % for non-treatment inmates. In other words, treated inmates were 73 percent less likely to be re-arrested than untreated inmates. (Pelissier, 1998)

This same report shows that individuals who participated in a residential drug abuse treatment program were less likely to use drugs after release than were comparison subjects.

Among inmates who completed residential drug abuse treatment, 20.5 % were likely to use drugs in the first six months following treatment completion compared to 36.7 % among untreated suggesting that those who received drug treatment were 44 percent less likely than those who had not received treatment to use drugs within the first six months. (Pelissier, 1998)

The results of the TRIAD evaluation suggest that the Bureau of Prisons' residential drug abuse treatment programs make a significant difference in the lives of inmates following their release from custody and return to the community. Such strong outcomes are not always the case and there is considerable variation in the effectiveness of programs. As Wexler and Williams suggested as far back as 1986, there are many factors that may affect the success of TC programs. They cite institutional resistance, the severity of inmate problems, and program inadequacies as impediments to effective prison-based programs. Similarly, Inciardi et.al. (1992) identified seven implementation issues including initial budget planning, choosing the facility, staff recruitment, client selection, treatment and correctional staff interaction, program

autonomy and aftercare as factors that may a significant confound the effectiveness of a given TC program.

Substance abuse has been and remains a major contributor to crime in American (Mumoa, 1999). Among the many efforts to treat this problem and, hence, reduce repeat offending is the TC approach that sometimes show dramatic results as in the case of the federal program. However, not all TC programs are equally effective and Mardsen (1999) suggests we should be asking "What type of treatment is the most effective?" While there may be many answers to this question, it is important to not only assess TC programs according standard criteria such as those mentioned used by Pelissier, it is equally important to identify the confounding effects of a given prison-based treatment program and of the distinctive circumstances that might condition the delivery of treatment. Our study attempts to this through a two phased evaluation: the process and outcomes reports.

OCCDTP is a very large, in-prison treatment program. While it is for men only, the fact that it has been operating since 1993 makes its graduates prime subjects for evaluating the effectiveness of the Therapeutic Community approach. The present RSAT funded evaluation builds on the three-year CSAT funded program, and the continuous gathering of data through follow-up interviews with graduates from the initiation of the program to the current study period. The current project, explained in detail in the process portion of the final report, is charged with addressing specific questions. First, for Cohort 2 graduates of the OCCDTP who relapsed during the one-year period after release from prison, we compare their level of substance abuse prior to incarceration with their level of substance abuse during the one-year period. Cohort 2 graduates are defined as men who completed the OCCDTP and were released from prison between July 1, 1996 and September 30, 1997. Second, we compare Cohort 2

graduates with a matched comparison or control group on selected outcome indicators. Third, we conduct a more detailed analysis of those who participated in the OCCDTP looking at outcome indicators for (1) those who completed the program and did or did not participate in the work release program at the prison and (2) inmates who were admitted to the program but did not complete the program (dropouts).

Outcome indicators for all comparisons consist of relapse, recidivism, employment status, participation in educational activities, risk for AIDS and technical violations while on parole. Finally, we assess the intermediate outcomes by comparing technical violations during the program periods for program participants, dropouts and the comparison group.

II. Project Description: Methods and Nature of the Data

This report relies on a specific redefinition of the design of the first evaluation (Hartmann 1996). Follow-up interviews with graduates were conducted with the men after they had been released for the OCCDTP for at least twelve months. In the previous evaluation, interviews were conducted at three-, nine-, and twelve-month intervals. Follow-up interviews were also conducted for the dropout group and for the comparison group. Also, we are able to use data gathered from inmates when they entered OCCDTP. These data, referred to as the psychosocial assessment, were collected under the CSAT grant and do allow us to address the first research question under the outcome assessment.

In addition, data for the outcome assessment consists of inmate information provided by the Missouri Department of Corrections both from the data collected on men at entry to prison, data primarily from the parole officers and data on the inmates' earnings while in prison. These

data concern background of the inmates such as religious preference, race, marital status, educational level, security risk, mental health, nature of offense, and the like and variables associated with release status. We also were provided with data from the Missouri State Highway Patrol about the specifics of arrests, nature of the offense and charges for men in the three groups. Simply portrayed, the design for the outcome assessment may be diagrammed as follows:

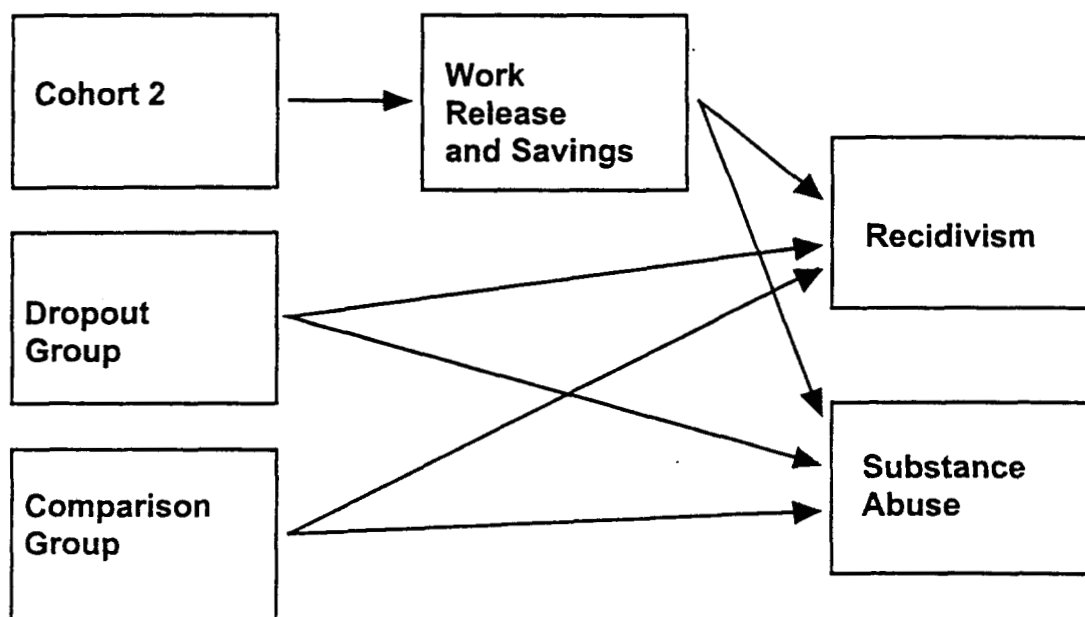


Figure One: Simplified Design for Outcome Assessment

As is the case in any quasi-experimental design, certain assumptions are made that allow the researcher to have some confidence in the relationships that might be statistically significant and, by implication, causal. Chief among these is that the treatment that distinguishes one group from the others is relatively constant. We have discussed in the process evaluation how two major confounding effects may violate this assumption: treatment provider change and the no-

smoking policy. As documented elsewhere, first out sourcing the counseling and hence the responsibility to establish an environment within the program sufficient to maintain the therapeutic community approach shifted from one to another treatment provider. As the data from the process portion of this report indicates, there is some question as to whether or not a constant and smooth transition was accomplished from one treatment provider to another. We have outlined the high turnover among counselors and the inmates' perceptions of the changes. We also documented how the no-smoking policy had a major impact on the quality of treatment, the motivation of the inmates to participate in the program, and might have functioned to select a different kind of man who succeeded in the program. In other words, the men who completed the program under the no-smoking policy might be different in psychosocial profile and even in degree of dependency than those who graduated during the time when smoking was permitted.

We have identified possible confounding effects in our comparison, and must point out this possibility before reporting the results of analysis. Still, relying on the process evaluation conclusions, we can assume that a TC environment was maintained at least to a degree uncommon in a program as large as OCC, and that counselors, staff and the Department of Corrections were committed to and supportive of the TC approach throughout the study period. The effects of the smoking policy on outcomes are much more difficult to handle. We can only speculate about the number of dropouts who intentionally "got caught" smoking so they could return to a facility which allowed smoking, and perhaps, more importantly, we can only guess at whether the profiles of those who successfully dealt with the no-smoking policy, either actually not smoking or not getting caught, are distinct from those men who graduated from the program while continuing to smoke.

A brief note about the comparison group: In the first report at the end of the CSAT grant, a comparison group was drawn and used. As Hartmann (1996) noted, there were shortcomings in the group. It was small and somewhat different in profile from the graduates of OCCDTC. In this RSAT grant, we wanted to make sure that our comparison was improved in terms of size and match with the graduates or Cohort 2. Table One shows the degree of fit among the comparison group, Cohort 2 and the dropout group. Once again, we have a comparison that has limitations. The comparison group is slightly younger, more white and committed for a less serious offense and for shorter terms than Cohort 2. Still, we gained a few numbers in the comparison group over the first study, and we have more data on the groups. Some of the lack of fit is due to the nature of the selective process for the OCCDTP, and the differences that are significant here probably reflect the nature of the program. Dropouts and Cohort 2 are well matched on all characteristics, indicating that selection of OCCDTP does follow a pattern.

TABLE ONE: Selected Characteristics of Cohort 2, Comparison and Dropout Groups

	COHORT 2 (n = 370)	COMPARISON (n = 126)	DROPOUT (n = 311)
% class C felony	46	65	54 ^a
Mean years of education	10.86	10.56	10.97
% Married	17	12	19
Mean age at commitment	34.53	30.57	32.27 ^b
Race (% black)	49	37	40 ^c
Mean age of Inmate	36.11	32.88	34.05
% Protestant	31	37	37
DOC Classifications			
% minimal mental health impaired	93	100	93
% no medical or health care needs	75	84	78 ^d
% educationally prepared	83	65	73 ^e
% job trained or stable work history	34	29	33
% poor work history	5	19	12 ^f
% acceptable inst. adjustment	86	71	71 ^g

- a. comparison four classes of felonies (n=788, $X^2 = 20.37$ df=6, $p < .01$)
- b. n = 809, $F = 14.12$, df=2, $p < .001$
- c. Black/white comparison only, n = 805, $X^2 = 5.74$, df = 1, $p < .05$)
- d. n = 809, $X^2 = 14.89$, df = 8, $p < .06$
- e. n = 809, $X^2 = 33.25$, df = 8, $p < .001$
- f. n = 809, $X^2 = 24.31$, df = 8, $p < .01$
- g. n = 809, $X^2 = 37.19$, df = 8, $p < .001$

III. Outcomes: Substance Abuse

In order to compare substance abuse before incarceration with abuse after relapse for Cohort 2 graduates of the OCCDTP, we matched psychosocial assessment data with data from the twelve-month follow-up interview. At the time they entered the OCCDTP, the men we are now defining as comprising Cohort 2 were administered a questionnaire that included several questions about their alcohol and drug usage prior to incarceration. For example, they were asked if they thought they drank more than they wanted to in the six-month period prior to incarceration, if they ever needed a drink first thing in the morning, experienced the shakes or tremors and how much they drank on a scale from never to daily. Interestingly, for each of these questions, as a group, Cohort 2 seems not too distinctive from what one might expect in the general prison population. However, we need to remember that these are self-report data, and that the men in Cohort 2 were placed in the treatment program at OCC through a selection process that included data on their substantive abuse prior to incarceration. Cohort 2 men had been recommended for treatment by the parole board. It is reasonable to assume, therefore, that they did have significant alcohol or drug problem prior to incarceration.

Specifically, for the Cohort 2 group out of 278 men, 70% answered no, they did not drink more than they wanted during the six months prior to incarceration; 58% said they never drank while 26% admitted to fairly heavy drinking (more than five drinks a week or daily drinking); 13% reported they experienced the shakes or tremors during the period before incarceration; and 82% said no to needing a drink in the morning to get going. Such self-report data may, of course, contain serious biases, especially since we know these men were selected for OCCDTP because their crimes were in some way related to substance abuse. Also, these data were collected before they went through treatment and some men may have been in denial.

The twelve-month follow-up interview conducted with Cohort 2 men included several items designed to assess alcohol and drug use. For these items, we have 153 usable questionnaires. Most of the men who responded to these items seemed to have not relapsed during the period of twelve months since their release. In fact, of the 153 men who completed the questionnaire, 139 were still on parole or probation, and for this group (parole or probation) 95 or 68% reported zero days of drinking alcohol in the twelve months since their release. Only 5 men reported drinking on ten or more days during that twelfth month since release. While we cannot do a paired comparison (matching the same man's psychosocial responses with his twelve-month interview responses), we can look at the data from the pretest psychosocial questionnaire for the men who are still on parole or probation. Of these men 49% (n=95) reported no alcohol consumption on the psychosocial instrument and 28% (n=54) said they drank daily. Clearly those graduates of OCCDTP still on probation or parole at twelve months after release are doing better than they were before incarceration and treatment.

Generally, responses to alcohol use questions on the twelve-month follow-up interview by Cohort 2 graduates are not different from responses to the psychosocial questionnaire. For example, 89% of the 153 men said they never took a drink first thing in the morning; only 39 reported drinking at all and among those the mean days of drinking was 7.89 with a standard deviation of 9.7. Seventy-five percent of the 153 men responded zero for the number of days drinking alcohol in the twelve months since release. Only one man reported having the shakes or tremors. Fifty-eight percent of the 39 men who responded to questions in a way that indicates they were drinking said they never drank more than they intended. Seventeen of the 39 did report having three or more drinks within a one hour period at least a few days 9 to 12 months

after their release, and 33 of the 39 men said they missed no days of work due to their use of alcohol.

In an effort to address directly the question of whether those men who relapsed after release from prison were abusing alcohol in greater degrees than they did before treatment, we constructed an index of degree of drinking before treatment and an index of drinking after treatment. We simply added together all the questions regarding alcohol use on the psychosocial, counting 1 as yes and zero for no and preserving the raw numbers for questions like number of days drinking, etc. This results in an index, the higher the score the more reason our assumption that alcohol abuse occurred. The index ranged from 11 to one with the majority (51%) of the 253 men receiving a zero indicating no alcohol consumption. The index for the twelve-month interview data was based on only those questionnaires for which there was a score on items designed to probe for usage. We have only 39 usable questionnaires for this purpose. The index had a wide range since on the twelve-month instrument we have number of days missed work over a year period. Those men who did report missing work, missed a large number of days and therefore added to the range of the index. While we must be careful with such a small n for the twelve month data, we did examine whether or not it was possible to predict the distribution of the after index from knowledge of the before (that is, do those men who reported heavily drinking before treatment still report heavy drinking?). We ran a scatter plot analysis for the two sets of scores and discovered that there is a weak relationship between them. We can reduce the errors by about 11% in predicting self-reported drinking behavior among Cohort 2 graduates from knowing their self-reported drinking habits before incarceration. In other words, those who were drinking after release from OCCDTP are likely to be those who were drinking heavily before incarceration. However, this conclusion is valid only for those for

whom we have after indexes. We must remember, however, that the overwhelming number of Cohort 2 graduate still on parole or probation report sobriety.

We did a similar analysis for questions on the psychosocial and twelve-month interview regarding drug use. Thirty-four percent of the 278 Cohort 2 men for whom we have psychosocial data said they used marijuana six months before their incarceration. Twenty-nine percent reported cocaine or crack use six months before incarceration (most said that they smoke cocaine or crack, 35% had sniffed for snorted, 13% injected, and overall 29 % said they had used at least a few days six months before incarceration). Ten percent of Cohort 2 men reported use of stimulants or amphetamines at least a few days in the six months prior to incarceration. About 6% was the rate for each of the other drugs inquired about (barbiturates or tranquilizers, opiates and hallucinogens).

Based on 12 month interview data, 35 out of 153 or 22% of the Cohort 2 men reported some drug use during the 9-12 months after release (down from the pretest figures if we assume that overall drug use for the Cohort 2 used was about the one-third figure that we would get from adding all the rates for various drugs). Marijuana and cocaine were the drugs most frequently mentioned as having been used six months prior to arrest. Depending on the specific question, about 35 Cohort 2 men answered questions that indicate a serious relapse. Of these men about half report that they used more than they intended and spent a lot of time seeking out drugs. They also missed work because of drug use. Again the relapsed group is relatively small. We constructed before and after drug use indexes, again summing all questions about drug use. We then performed a scatter gram analysis to see if we could predict after drug use index scores from knowledge of drug use scores before treatment at OCCDTP. This time we found significant results with a reduction in error of 17% ($n = 22$, $df = 1$, $F = 4.22$, $p < .05$) in predicting after

indexes from before. The men using most heavily after release were likely to be the men who reported the most heavy use before treatment. Again, this conclusion applies only to these relapsed men.

Since we attempted to locate and administer the twelve-month interview to men in the comparison and dropout groups, we were able to analyze the responses of the men to questions about their substance abuse. We asked a series of question about alcohol and drug use, some of which went into detail about specific behaviors, for example, numbers of bottles or cans or beer consumed daily. For some of the questions such as responses to the question "How many days work have you missed because of drugs since release from prison?" the number of respondents for all groups was quite low (comparison = 14; dropouts = 12; Cohort 2 = 35). Generally, the responses to these questions indicate that the majority of men in all three groups claim to be using no or very alcohol and practically no drugs. We did, nevertheless, run statistical comparison among the groups with the following results (TABLE TWO). Only for the question on total use of any alcohol during the month since release from prison did we find a significant difference. If we exclude from analysis those responses coded as zero (that is, analyze only those responses that indicate at least one instance of alcohol use) the difference reported below remains but is not longer statistically significant ($n = 83$, $df = 2$, $F = 2.39$, $p < .10$).

TABLE TWO: Summary of Analysis Among Groups on Selected Substance Abuse Questions (12 month Interview)

Question (within the 12 months since release):	Cohort 2	Means for Dropout	Comparison	Test
1. Number of days work missed due to drugs	4.06	1.0	3.57	n.s.
2. Numbers of days work missed due to alcohol	2.13	0.0	2.67	n.s.
3. Numbers of days drank wine	1.77	2.0	1.21	n.s.
4. Numbers of days drank beer	5.17	2.24	5.26	n.s.
5. If drank beer, number of cans/bottles	5.16	3.48	6.57	n.s.
6. Numbers of days used alcohol	2.03	0.96	4.07	*

* n = 270, F = 4.23, df = 2, p < .05

IV. Outcomes: Recidivism

We define recidivism as 1) having an arrest during the twelve-month follow-up period; 2) being arrested but not incarcerated during the follow-up period, or 3) being arrested and incarcerated during the follow-up period. We will make comparisons between Cohort 2, and Dropouts and Cohort 2 and the comparison group on each of the measures of recidivism.

The twelve-month interview data allow us to use self-reports on days in jail, times arrested and other questions designed to index criminal activities. When asked if they had been involved in criminal activities to make money in the 9-12 months after release, the overwhelming majority of both Cohort 2 and comparison group respondents said no. However, 13% of the comparison group said "yes" while 8% of cohorts said "yes." This difference, however, is not statistically significant. On the question of how much money they earned weekly from illegal activities, only 9 Cohort 2 graduates responded and 4 from the comparison group. The comparison group was significantly different from the Cohort 2 group earning much more money from illegal activities. Not surprisingly, of those Cohort 2 graduates who admitted

to criminal activity (n = 17), their crimes were drug related, as were the crimes of the men in comparison group who responded to this question. Another question asked simply “Were you involved in any criminal activity?” during the year since release. Twenty percent of the comparison group said “yes,” and 9% of the Cohort 2 graduates said “yes” (n = 195, $X^2 = 3.41$, $df = 1$ $p < .06$).

There were several questions asking respondents how many times they had been arrested and how many days they had spent in jail since their release. TABLE THREE shows the average times. While no Cohort 2 to comparison groups are statistically significant, they are all in the direction of lower criminal involvement among the Cohort 2 graduates than among the comparison group.

TABLE THREE: Mean Arrests and Days in Jail (12 month interview)

		Times Arrested (year) *	Times Arrested (9 to 12 months) **	Days in Jail
Cohort 2	(n = 153)	mean = .55	mean = .39	mean = 11
Dropout	(n = 71)	mean = .36	mean = .21	mean = 6
Comparison	(n = 45)	mean = .70	mean = .49	mean = 17

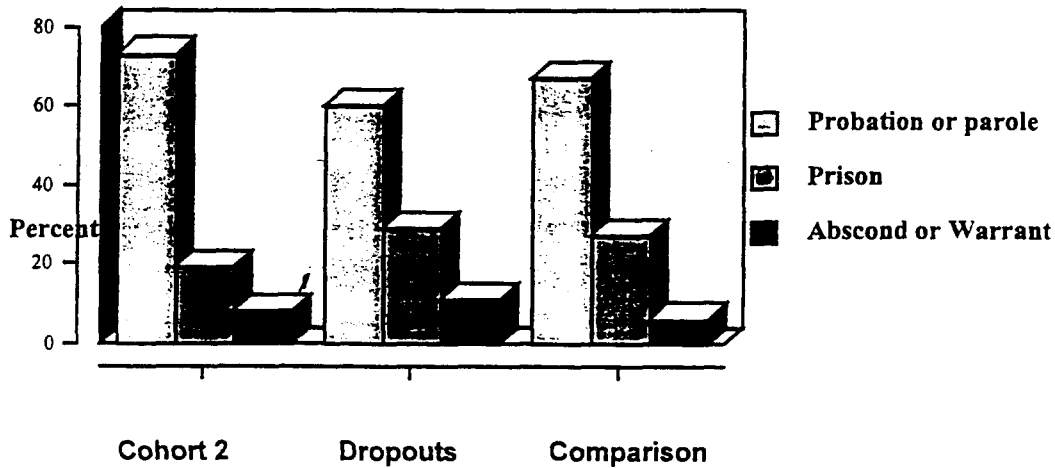
* dropouts and comparison (n = 114, $df = 1$, $F = 3.23$, $p < .05$)

** dropouts and comparison (n = 105, $df = 1$, $F = 4.72$, $p < .05$)

In an effort to get the most general assessment of the effectiveness of the OCCDTP, we used different data sources. The Department of Corrections provided data from their PAPIS system. These data tell us the status of prisoners after one year according to reports of parole officers and other officials. Status is reported in a detailed coding system. We simplified the codes for a more easily interpretable outcome. We counted as a “success” all incidents of

inmates who were still outside of prison 12 months after their release. Success, therefore, means still on parole or probation, discharged from the system, or under some kind of special moderation such as a halfway house, electronic supervision or treatment facility. We eliminated some cases from analysis such as death or interstate transfer, although there were very few of these cases. We analyzed the Cohort 2 graduates against the comparison group and against the dropout and comparison group to assess the effects of either completing the OCCTDP. TABLE FOUR shows the results:

**TABLE FOUR: Overall Outcomes for Three Groups
(Department of Correction's data) ***



* Cohort 2 and Comparison not significantly different ($X^2 = 3.15$, $df = 2$, $p < .20$); Cohort 2 compared to both Dropout and comparison group is ($X^2 = 14.40$, $df = 4$, $p < .001$)

The percent differences in TABLE FOUR that allow us to compare, say to the TRIAD study, are that 19 % of the Cohort 2 graduates had returned to prison after one year and 27 % for the comparison. As we report above, the difference while in the anticipated direction is not significant. A cross tabulation between the Cohort 2 (19 %) and the Dropouts (29 %) is significant, as shown above. We can say that the Cohort 2 men were 30 % less likely to be back in prison than the comparison group and 34 % less likely than the dropout group. While not as big a difference as the TRIAD study or others reported in the literature (Wexler, 1995), these results are promising, especially given the confounding impact of the change in treatment provider and the non-smoking policy.

Another way of assessing the effectiveness of the program from the Department of Corrections data is to look at the return time to prison. We have information of the number of

months from first release from prison to date of return to prison for those returned to prison from the three groups. The differences among the three mean numbers of months for the respective groups are in the expected direction. Cohort 2 graduates who were returned to prison (n = 76) were out of jail an average of 6.7 months. For the men in the comparison group (n = 45), the average time out of prison was 6.57 and for the dropouts (n= 86) it was 5.26. When we performed ANOVA on these data, we discovered that the means are different (n = 207, F = 3.90, df = 2, p < .02). While the differences are merely matters of weeks, the fact that a smaller percentage of Cohort 2 returned to prison than the comparison group, and those who did return remained out of prison longer is promising for a conclusion about the effectiveness of OCCDTP. It is also interesting to note that according to this variable which is calculated from records of return to prison, the rates for where the men are after twelve months release from prison differ from the results from the variable which identifies the status of the men twelve months post release. This is due to whether or not Community Release Centers, Electronic Monitoring Programs and Residential Treatment Facilities are "prison." In the return to prison variable, they count as "prison." The rates of return are, therefore, higher: Cohort 2 graduates have a 24 % return, comparison group has a rate of 34 % and for the dropout group, 27 % have returned to prison.

Still another approach to assessing the recidivism of the respective groups is to examine the specific violations or crimes committed after release from prison. Sixteen percent of the comparison group, for example, committed a felony; while only 5 % of both the graduates and the dropouts did so. Using data from Missouri Uniform Law Enforcement System (MULES), we were able to look at the final charges made against the men in the three groups. For Cohort 2 graduates, there were 58 final charges, 71 % of which were felonies. For dropouts, there was 47

final charges of which 64 % were felonies. Finally, there were a total of 21 final charges in the comparison group and 57 % of these were felonies. Since men may have multiple charges against them, the number of charges is not as informative as the percentage distribution for type of charge. Surprisingly, the Cohort 2 graduates seem to be involved in more serious violations than either of the two other groups.

Also from the MULES data, we were able to examine the final charges against the men from the respective groups (that is, the charge that returned them to prison). Remembering that some men have multiple charges, we nevertheless can categorize the charges by looking at the NCIC codes. For Cohort 2 graduates, there were 58 final charges. By collapsing all dangerous drug charges with driving under the influence charges we see that 18 of the charges involve drugs or alcohol (31 %). For the comparison group, the percentage of men with drugs or alcohol implicated in their charge was very similar, 33 % out of the 21 final charges. Of the 47 final charges for the dropout group, 10 were for dangerous drugs or driving under the influence (21%). We can match these after release charges with those that were the cause of the imprisonment of men in the three groups. Of the 317 men in the Cohort 2 group, 28 % have a dangerous drug charge of some kind (the largest offense category from a range of 19 NCIC offenses). This compares to 25 % of the men in the comparison group with similar charges and 22 % of the dropout group.

While these results may not be as dramatic as some others reported in the literature (cf. TRIAD), they are consistent with the results of the evaluation of the CSAT phase of the OCCDTP (Hartmann, 1996). Given the confounding effects of change in treatment provider and the no smoking policy, these results are promising. It is interesting to speculate about the differences between the dropouts and the other two groups. It appears that they are closer on this

outcome analysis to the comparison group, at least on most indicators. We did look at the background characteristics and, as expected, the dropout group is similar to the Cohort 2 group on variables such as class of felony convictions, educational level, mental health code and so on. The differences we see in Table Three are likely attributable to completion of the OCCDTP.

V. Outcomes: Employment

The twelve-month follow-up interview contained several questions designed to measure employment history after release from prison. Overall, the three groups are quite similar in what they said is their employment experience since prison. There are, however, some features of their experiences that help us understand possible consequences of completing the OCCDTP. When comparing current employment, (that is, employment status 12 months after release) we see that among the Cohort 2 graduates 91 % said they had full time jobs, compared to 84 % for both the comparison group and the dropouts. From the same question, we learn that equal percentages of graduates and comparisons report they relied on family or friends for their primary source of economic support (4 %) while dropouts had a 8 % response to the question. A related question asks how often since release from prison it has been necessary to get financial help from one's family. Again, while not statistically significant, we see that graduates seem to be more self-reliant than the other two groups of men. Forty-nine percent of the Cohort 2 graduates said they never need such help; the comparison and dropout group figure was 36%.

When asked if they had held a full time job since release from prison, we see a fairly significant difference among the responses. Among graduates 85 % said "yes" to having a full time job (82 % for dropouts and 64 % for the comparison group, $n = 268$, $X^2 = 13.83$, $df = 8$, $p <$

.07). For days worked per month since release from prison, we see another significant difference among the groups, but it is in the opposite direction than what we would expect. The mean number of days for graduates was 19; for the comparison group and the dropouts, it was 21 ($n = 242$, $F = 2.91$, $df = 2$, $p < .06$). This direction of difference is probably explained by the fact that graduates had full time employment while comparison and dropouts were more likely to work part-time, meaning they probably worked more days at fewer hours. The question on hours worked per day is in the predicted direction with mean hours for graduates at 8.6 and 8.2 for the comparison group (difference not significant).

Earnings reported per week were not significantly different among the three groups, but months employed since release from prison are as is number of jobs held, as shown below in TABLE FIVE.

**TABLE FIVE: Months Employed and Jobs Held
Since Release from Prison**

Study Groups	Mean	Standard Error	Statistical Test (ANOVA)
<i>Months Employed</i>			
Cohort 2 Graduates (n = 137)	7.53	.32	
Dropouts (n = 63)	6.07	.47	F = 3.54, df = 2, p < .05
Comparison (n = 33)	6.51	.65	
<i>Number of Jobs Held</i>			
Cohort 2 Graduates (n = 139)	1.87	.12	
Dropouts (n = 61)	2.44	.18	F = 5.06, df = 2, p < .01
Comparison (n = 35)	2.54	.25	

We may be fairly confident that the employment experiences among the three groups of men are different, and that the Cohort 2 group reports a more successful integration into the work world than either the comparison or the dropouts

VI. Outcomes: Educational Activities

To assess the effectiveness of OCCDTP on subsequent educational activities of the men who graduated, we asked two questions on the 12-month interview. First, we inquired if the men had attended any kind of educational program during the year following their release. Then we

probed for what type of school they attended. Since we asked these questions of men from all three of the study groups, we were able to do a simple statistical analysis. TABLE SIX shows the results of the analysis. The differences in this table are not statistically significant.

TABLE SIX: Education After Release from Prison

	Cohort 2	Comparison	Dropout
Seeking education	13 % (n =136)	20 % (n= 44)	9 % (n= 67)
Numbers in Type of Educational activity	3 High School 11 Vocational 3 2 yr. college 1 college	5 High School 2 Vocational 3 2 yr. college 0 college	0 High School 3 Vocational 1 2 yr. college 2 college

We must conclude that continuing conventional education, that is, activities that are not directly related to drug or alcohol abuse (see process report for figures on after care among the OCCDTP graduates) was not a high priority for many of the men in three groups comprising these evaluations.

VII. Outcomes: Work Release Experiences

The work release experience at OCC has been an integral part of the TC since the beginning of the program. In fact, OCC has had a very extensive work release program since the prison was first established. A part of the charge of this outcome assessment is to attempt to evaluate the impact that participating in the work release program might have had on the subsequent success or failure of the graduates. The Department of Corrections provided us with

data on amount of money that prisoners earned while incarcerated, and the source of these earnings. Using these figures we looked at rates of participation in work release as measured by whether or not the prisoners had accumulated money through their participation in the work release program, their degree of participation in the program as measured by how much money they accumulated and a measure of their status 12 months after release.

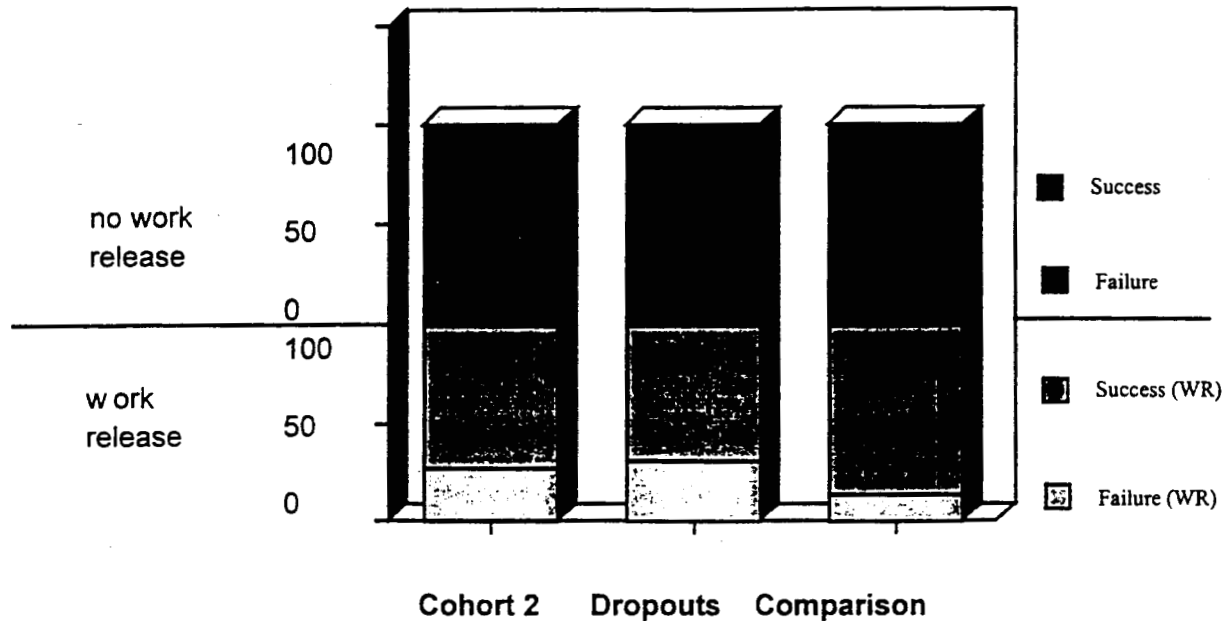
First, we discovered that among the comparison group, participation in work release programs was relatively rare. Only seven of the 126 men in the comparison group had money they had earned through work release. Of these seven men, all but one were still on parole or probation 12 months after release. For the dropout group 62 had participated in work release and 62 % of these men were “successes,” that is, they were on parole or probation 12 months after release from prison.

Of course, a large number of Cohort 2 graduates had participated in work release. Of the total group, 297 men (80 %) had records of earning from work release. Since we have larger numbers of men having participated, we were able to address the question of whether work release experience impacted on their success after release. We used a logistic regression model to see if it is possible to predict success or failure (whether or not the men were still on parole or probation at 12 months from release from prison) from knowing how much money they earned through work release. While the logistic model was not highly significant ($n = 297$, $df = 1$, $\chi^2 = 1.60$, $p < .25$), it does show that the probability of predicting success is associated with earnings. For example, for a man who had work release earnings of \$1000, the probability that he was on parole or probation was 67 %. For a man with earnings of \$5000 the probability rose to 75 % and for a Cohort 2 graduate with over \$10,000 in work release earnings, the probability of “success” was 85 %. Of course, we must be very cautious in generalizing results for such a

logistic regression model since it was not significant at conventional levels. Still the pattern (an increase in probability of success with increased earnings) is encouraging.

We also can demonstrate the influence of having participated in the work release program by comparing the percentage of those men who stayed out of prison at the twelve-month mark and participated in the work release program with the success rate for those who did not participate in work release for each group. To do this we looked at the amount of money earned through participation in the work release program and dichotomized this variable. If a man had recorded any earnings we count him as having participated, hence this variable becomes simply “yes” or “no” on this question. We discovered that having participated in work release has no predictive value at all for the Cohort 2 group, but did for both the dropouts and comparison. For the dropouts, those who has earned at least a dollar through work release were slightly more likely than those with who had not to be still out of prison at twelve months since release ($n = 228$, $df = 1$, $X^2 = 3.38$, $p < .07$). For the comparison only 7 men had earned money through work release and 6 of them (85%) were still out of prison at twelve months (the over all cross tabulation for this group was not significant). TABLE SEVEN displays the results of this analysis and show that work release is not a particularly powerful predictor of success at twelve months.

TABLE SEVEN: Success or Failure for Groups as a Function of Participation in Work Release



VIII. Outcomes: Risk of AIDS

Perhaps the most difficult area in which to assess the impact of participation in OCCDTP is risk for AIDS. On the twelve-month interview, we asked several questions that address this concern. For example, whether or not the men in the three groups knew family or friends who were HIV positive. Only 2 of the men in the comparison did; 5 in the dropout and 13 in the Cohort 2 group. On the question about “sharing works” (reference to risky drug use practices), the numbers were likewise very small. No men in the comparison group, or in the dropout and

only one in Cohort 2 said he shared using drug paraphernalia. Only twenty responded to the question, and 19 said zero to the number of times they did this. There were actually only two questions that allow some meaningful interpretations. ANOVA on the mean numbers of people with whom the men said they had had sex with since release from prison revealed interesting differences. The mean number of partners for comparison group was the highest ($n = 45$; mean = 2.64, $SD = .48$) with dropouts and Cohort 2 graduates virtually the same (dropouts: $n = 72$, mean = 1.70, $sd = .38$ and Cohort 2: $n = 153$, mean 1.65, $sd = .26$). While these mean differences are not significant ($n = 270$, $df = 2$, $F = 1.71$, $p < .18$) they are in the direction of indicating that the comparison group might be more likely to be sexually active with multiple partners.

The most striking difference we discovered was among those men who reported injecting drugs. Of course, as we have indicated, most of the men in all three groups said they did not inject drugs. For those who indicated a frequency of injecting (number of times injecting drugs 9 to 12 months since release from prison), there was a highly significant difference among the means for each of the groups. The comparison group had the highest mean times in the three month period ($n = 45$ [includes men who response was zero] ; mean = 8.47, $sd = 2.15$). For the Cohort 2 graduates, the mean times injected drugs was 1.49 ($n = 153$ [includes men whose response was zero]; $sd = 1.16$). For the dropouts, the mean was .70 with a sd of 1.69 ($n = 72$ [includes men who response was zero]). ANOVA for these means yielded a $F = 4.79$, $df = 2$ $p < .01$. The difference between the mean for the dropouts and the Cohort 2 group is not significant.

IX. Outcomes: Violations

We have data on the prison conduct or institutional violations of the men in the three groups while they were in prison. While these comparisons are open to a variety of different interpretations and are no doubt influenced by the no-smoking policy at OCCDTP that was in effect during a significant portion of the study period, we do see differences among the groups. These data are more directly related to the process evaluation portion of the report, but do help us set a base line or comparison point for an analysis of violations while on parole. While in prison, there was quite a significant difference among the violations reported for the three groups in the direction that we would expect. The Cohort 2 graduates had by far the lowest number of violations (mean = 9.81, sd = .69); the comparison had the second highest number (mean = 13.98, sd = 1.18) and the dropouts the highest (mean = 17.51, sd = .75). An ANOVA for these three arrays of violations yields a $F = 28.49$ ($n = 802$, $df = 2$, $p < .0010$). The dropouts' high average score is probably due to the problems that precipitated their leaving the OCCDTP. Similarly, the low rate for the Cohort 2 probably reflects their success in completing the program.

We have no direct data on violations while on parole or probation after release from prison, but we can examine some indirect indicators of how well the men did after release. First, we examined the institutional codes for the men and discovered that Cohort 2 graduates were significantly better adjusted to prison life than the men in either the dropout or comparison group (results reported in Table One, footnote g). This finding is consistent with the above analysis of violations in prison. We also did a cross tabulation on simplified reasons for return to prison for

the three groups. We found that the reasons are quite different for the respective groups. Technical parole violations as the reason for return to prison were very high for dropouts with 71 men or 22 % of the total number of those in the dropout group having this as the reason for their return, compared to 18 (14% of the total) from the comparison group and 29 or 8 % of the Cohort 2 graduates. Board returns were similar across the groups with 10 men from the comparison board returned, 19 from the dropouts and 20 from the graduates (7 %, 6% and 5%). We have already reported the differences among the groups for new felonies committed. These data seem to indicate the Cohort 2 graduates fare slightly better than the members of the other two groups on most indicators but not dramatically so.

Conclusions and Implications

For most points of comparison and on most indicators, the conclusion just given above applies to all sections of outcome assessments. To summarize, our research design requires we examine the association between receiving treatment at OCC, having dropped out from that program and having no treatment at all. We are also to assess the intervening effects of participation in the work release program. We found that the effect of participation in the OCCDTP on the severity relapse was very difficult to assess. First, the psychosocial data gathering on the men when they entered OCCDTC probably did not accurately reflect their degree of dependency or addiction to drugs or alcohol (for example, 70% said they did not drink more than they wanted during the six month period prior to incarceration). Second, according to the twelve-month interview, a nearly equal large percentage (68%) said they did not drink at all during the six months since their release. So, since the number of men who admitted to a severe

relapse was small, it was difficult to generalize. However, we were able to show that men who had relapsed to drug use were likely the same men who had been heavy drug abusers before treatment.

Next we addressed issues of recidivism. Our analysis gives us a fair degree of confidence in our conclusions about the relative effects of participation in OCCDTP. As measured by days in prisons and number of times arrested (self report) and by the official status of the men twelve months after release, we see that Cohort 2 graduates were managing to stay out of prison to a degree that distinguishes them from both the dropouts and the comparison group. While we were not surprised to learn that the nature of final charges for the men in the respective groups are similar with respect to drug and alcohol use, we believe there is some encouragement in the results since the Cohort 2 men were no more likely than the men in the other groups to have a final charge that was drug or alcohol related.

On the dimension of employment, we found encouraging results. For both months employed and number of jobs held the Cohort 2 men show the best results generally holding few jobs for a longer period of time (TABLE FIVE). We found no significant differences among the three groups for their participation in educational activities after release from prison. For the intervening effects of participation in the work release program at OCCDTC, we discovered that those men with the highest dollar values earned were a little more likely to still be out of prison at twelve months after release than those with few dollars earned. These are, however, weak associations. Using data from the follow-up interviews, we were able to assess the behavior of the men regarding risk for AIDS. Generally for respondents from all three groups, risk of AIDS behaviors such as sex with multiple partners and sharing drug apparatus is quite low. However,

we did discover a difference among the groups with the Cohort 2 graduates reporting fewest number of sexual partners.

In conclusion, these contrasts and comparisons among the groups are not striking to say the least. However, many of the points of analysis are in a direction that suggests that the program has been at least minimally effective in reducing recidivism and drug use and encouraging work related behaviors. Given the confounding effects of the change in treatment provider and the non-smoking policy, we perhaps could have expected no measurable results. The program did, however, have a statistically measurable effect on the proportion of men still on parole or probation, and participation in the work release program did seem to be predictive of this outcome.

The implications of this study must be carefully drawn out. First, the results suggest that while OCCDTP is somewhat successful, the impact that the program has had on Cohort 2 graduates is certainly less than anticipated, especially given the promising outcomes from the first evaluation of OCCDTP. As we have mentioned in several different contexts, we can be quite confident that the confounding effects of the change in treatment provider and the non-smoking policy, both of which are discussed in the process report, at the very least dampened the effectiveness of the TC. We really cannot assume that the treatment was constant over the study period, nor can we assume that the selective process operated in an even and unchanged matter over time. Moreover, the work release program which has a long history at the OCC often required numbers of men who were "free" from the rigors of treatment enough time to devote significant hours to work release. Some of the points of conflict that arose when the treatment provider changed were over the status of men who had completed the drug treatment program yet remained in the prison. There were also issues over educational and emotional readiness for

the program of some men who participated during the Cohort 2 period. In short, the realities of change within the corrections systems, the impact of policy decisions, and changes in the implementation of treatment, all combined to work against achieving dramatic outcomes.

Second, in spite of these confounding effects, OCCDTP does have a measurable impact of those who complete the program. They are less likely to return to prison, less likely to seriously relapse and more likely to hold steady jobs than men who did not participate in a drug treatment program while in prison. Had the first treatment provider continued throughout the evaluation period, had OCCDTP maintained a consistent cigarette smoking policy and practice, given the steady support of the Department of Correction, we might have seen more impressive results. The core of the program, its commitment to the TC approach, and the achievement of Cohort 2 graduates in spite of the obstacles identified in this and the process report implies that a much more successful program with more convincing outcomes is not only possible, but probably quite likely as OCC continues to practice in prison drug treatment.

References

- Field, G. 1985. "The cornerstone program: A client outcome study." Federal Probation 48(2):50-55.
- Hartmann, D. J. 1996. Ozarks Correctional Center Drug Treatment Program Annual Report: October 1995 to September 30, 1996. Center for Social Research, Southwest Missouri State University.
- Inciardi, J.A. et. al. 1992. "Obstacles to the implementation and evaluation of drug treatment programs in correctional settings: reviewing the KEY experience." In C. G. Leukefeld and F.M. Tims (eds.) Drug Abuse treatment in Prisons and Jails. National Institute on Drug Abuse. Rockville, Maryland.
- Inciardi, J. A. (ed.) 1993, Drug Treatment and Criminal Justice. Sage Publications, Newbury Park.
- Knight, K. et. al.. 1997. "An assessment of prison-based drug treatment: Texas in-prison therapeutic community program." J. Offender Rehab. 24:75-100.
- Marsden, M. E. 1999. "Organization Structure and the Environment Context of Drug Abuse Treatment." Issue Paper. National Institute on Drug Abuse.
- Martin, S. S., Butzin, C. A., and Inciardi, J. A. 1995. "Assessment of a multistage therapeutic community for drug-involved offenders." J. Psychoactive Drugs 27:109-116.
- Mumoa, C. 1999. "Substance Abuse and Treatment, State and Federal Prisoners, 1997," US Department of Justice, NIJ, 172871.
- Pelissier, M.M.. 1998. TRIAD Drug Treatment Evaluation Six Month Interim Report. permission requested from Information, Policy and Public Affairs, Federal Bureau of Prisons.
- Wexler, H. K., and Lipton, D. S. 1993. "From reform to recovery: advances in prison drug treatment." In J. A. Inciardi, (ed.), Drug Treatment and Criminal Justice. Sage Publications, Newbury Park, , pp. 209-227.
- Wexler, H. K., and Williams, R. 1986. "The Stay'n Out therapeutic community: Prison treatment for substance abusers." J. Psychoactive Drugs 18:221-230.
- Wexler, H. K. 1995. "The success of therapeutic communities for substance abusers in American prisons." J. Psychoactive Drugs 27:57-66.