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NATIONAL EVALUATION DATA SERVICES

REPLICATED EFFECTS OF CRIMINAL JUSTICE INVOLVEMENT ON SUBSTANCE ABUSE TREATMENT RETENTION AND OUTCOMES

September 2002



CSAT
Center for Substance
Abuse Treatment
SAMHSA



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September 2002

This document was supported by the Center for Substance Abuse Treatment, Department of Health and Human Services, Caliber/NEDS Contract No. 270-00-7078. The perspective offered in this document is solely that of the author(s) and does not reflect the policies or views of the Federal government, or any of its Departments or Agencies.

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FOREWORD

The mission of the Center for Substance Abuse Treatment (CSAT), Substance Abuse and Mental Health Services Administration (SAMHSA), is to improve the lives of individuals and families affected by alcohol and drug abuse by ensuring access to clinically sound, cost-effective addiction treatment that reduces the health and social costs to our communities and the nation. As part of its mission, CSAT supports the development of innovative treatment approaches, based on sound data and state-of-the-art analyses, and disseminates information on treatment approaches shown to be effective for curbing addiction and related behaviors.

In 1997, CSAT established the National Evaluation Data Services (NEDS) contract to support the CSAT mission. In 2000, through a new contract (Contract No. 270-00-7078), CSAT continued and expanded the scope of NEDS. NEDS activities help to foster collaboration and partnering among the public and private sectors along the Federal-state-local community-based treatment continuum. The three major activities of NEDS, under the current contract, are to assist in developing data infrastructure vehicles and tools, to perform treatment services secondary analyses on existing data, and to support the Government Performance Results Act (GPRA) activities. NEDS, through its Secondary Analysis Technical Reports, provides evidence-based information on substance abuse treatment issues relevant to treatment needs, access, utilization, efficacy, effectiveness, and efficiency. NEDS analyses focus on treatment needs, services received, and populations of interest to the substance abuse treatment field in order to provide new information about which services yield the best outcomes for what types of clients, at what cost. This information helps address treatment issues such as the treatment gap, culturally competent treatment services, and recovery.

This analytic report examines the role of criminal justice involvement for substance abuse treatment clients in their admission and retention in substance abuse treatment. It also examines the role of criminal justice involvement in clients' participation in treatment services and their substance use and illegal activity outcomes in the first year after treatment termination. The report provides important information for treatment providers, policymakers, and researchers/evaluators working with client populations that have a large proportion of clients involved with the criminal justice system. The replication of findings across four national treatment outcome studies covering more than 20 years of treatment admissions provides added confidence in the conclusions presented. The conclusions support the effectiveness of treatment for the criminal justice-involved client population. In addition, the findings of increased

retention for criminal justice-involved clients and the comparatively lower participation in a variety of comprehensive treatment services suggest issues that treatment services and criminal justice system administrators may want to consider in the design and operation of treatment services.

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ACKNOWLEDGMENTS

We wish to acknowledge our reliance upon the overall guidance and direction of Ron Smith, the Government Project Officer for the NEDS contract. Caliber Associates is the prime contractor for NEDS in partnership with DeltaMetrics, The Lewin Group, the National Association of State Alcohol and Drug Abuse Directors (NASADAD), the National Development and Research Institutes (NDRI), the National Opinion Research Center (NORC), Science Applications International Corporation (SAIC), and UCLA Integrated Substance Abuse Programs (ISAP).

We wish to thank Barry Brown, University of North Carolina, for his valuable and insightful comments on an earlier draft of this paper. Thanks are also due to Substance Abuse and Mental Health Services Administration (SAMHSA) staff members who reviewed and commented on an earlier draft of this paper. Many individuals on the NEDS team contributed to this report through content and editorial reviews and final document preparation. Special thanks go to Michael Wolf-Branigin, Beverly Hitchins, Marsha Morahan, Sharyn Berg, and Iris Mensing.

ABSTRACT

Large numbers of clients entering substance abuse treatment are involved in some way with the criminal justice system. Some are under direct mandate or supervision, while others may perceive or experience less direct pressure to enter treatment. To design and monitor effective and efficient linkages between treatment and criminal justice systems, it is critical to understand the relationships of criminal justice involvement with the treatment being provided and post-treatment outcomes. This study summarizes the replicated results of four national treatment outcome studies with 1-year post treatment follow-up data for approximately 3,400 outpatient and 3,100 long-term residential clients. The conclusions, based on multivariate regression analysis within each, demonstrate that criminal justice involvement is related to longer retention in both types of treatment. Criminal justice-involved clients in outpatient treatment, however, appear to have a lower probability of participating in a variety of comprehensive services compared to clients not reporting involvement. Despite the lower participation, criminal justice clients showed reductions similar to other non-criminal justice clients in both substance use and illegal activity in the first year after treatment termination.

EXECUTIVE SUMMARY

This analytic report examines the role of criminal justice involvement in the admission and retention of clients in substance abuse treatment. It also examines the way in which criminal justice involvement affects both client participation in comprehensive treatment services and client substance use and illegal activity in the first year after treatment.

1. INTRODUCTION

Questions regarding the appropriateness and effectiveness of treatment for substance abusers involved with the criminal justice system have persisted since the establishment of Public Health Service Hospitals in the 1930s. More recently, the increasing use of drug courts and other criminal justice system programs may result in the majority of clients in treatment having some involvement with the criminal justice system. The results of a number of studies showing that criminal justice system involvement is related to increased retention suggest that more definitive statements regarding treatment outcomes could bolster the justification for more and better referral services. Unfortunately, many studies are not replicated, and others have produced contradictory results.

This report examines four key questions regarding criminal justice involvement with substance abuse treatment clients. The analysis focuses on the characteristics of criminal justice-involved clients, their retention in treatment, the services they receive, and the outcomes they achieve after leaving treatment. More complete and convincing evidence on each of these issues could help treatment providers meet the needs of criminal justice clients, help policymakers design and support more effective and efficient initiatives, and guide analyses toward the investigation of key factors contributing to improved treatment outcomes for criminal justice-involved clients.

2. METHODS

To address the four areas outlined above, analyses were designed that could be replicated using four major national treatment outcome study databases: the Treatment Outcome Prospective Study (TOPS), the Drug Abuse Treatment Outcome Study (DATOS), the National Treatment Improvement Evaluation Study (NTIES), and the Alcohol and Drug Services Study (ADSS). The databases include follow-up interviews with samples of 3,400 adult clients from outpatient drug free treatment and 3,100 clients from long-term residential treatment. The studies involve admissions from 1979-1981, 1991-1993, 1993-1994 and 1997-1998 and encompass a variety of sample design strategies. Although analysis of each study individually

has contributed important knowledge, taken together they provide the largest and most comprehensive resource to address issues of major policy importance.

The analysis addressed each question both separately within each database and for outpatient drug free and residential clients separately, resulting in eight replicated analyses for each question. A common definition of the category "criminal justice system involvement" was used, which included a self-report of being on probation, on parole, in jail awaiting trial or sentencing, or referred to treatment by the criminal justice system. The outpatient and residential treatment providers had between 20 and 60 percent of their clients involved with the criminal justice system. An additional category, "criminal justice pressure," was also created. Because of variations in the databases, the definition of criminal justice pressure necessarily ranged from formal enrollment in a Treatment Alternatives to Street Crime (TASC) program to the requirement for urine test monitoring by the criminal justice system. The three-level variable developed was included as a predictor in multivariate general linear and logistic regression analyses to predict retention, receipt of comprehensive services, post-treatment illegal activity, and post-treatment substance use.

3. FINDINGS

A number of key results were replicated across all data sets with statistical significance. Some were replicated only across data sets within either the outpatient or the residential type of treatment. Other analyses yielded a mixture of results. A major finding was that large numbers of clients in each data set and each type of treatment were involved with the criminal justice system. Estimates of more intense pressure to enroll and remain in treatment were reported by about one third of the clients across treatment approaches and databases.

Clients involved with the criminal justice system were twice as likely to be male, after controlling for other descriptors including age, ethnicity, prior treatment, prior illegal activity, and pre-treatment substance use pattern. In the outpatient samples, criminal justice-involved clients appeared to be younger. In residential samples, criminal justice-involved clients were more likely to be non-Hispanic Caucasians.

The involvement of outpatient drug free clients with the criminal justice system was related to longer stays in treatment, on the average about 30 additional days. This finding was replicated in only two of the databases for residential clients. Outpatient drug free clients involved with the criminal justice system also appeared less likely to participate in a variety of comprehensive services during treatment. Clients in residential programs appeared to have similar levels of participation regardless of criminal justice system involvement.

Reduction in illegal activity, cocaine use, and alcohol use was reported across treatment types and data sets. The likelihood of a reduction was not systematically related to involvement in the criminal justice system. This result supports the hypothesis that treatment services have a significant and positive effect on the behaviors of criminal justice clients.

4. SUMMARY AND IMPLICATIONS

The results of the analyses support the basic belief that criminal justice-involved clients achieve substantial reductions in problem behaviors and, indeed, do as well or better than other clients in substance abuse treatment. In many cases, retention is increased, and outcomes are similar to other clients with equivalent backgrounds and experience. Such findings lend support to the general concept of identification and referral to treatment of substance abusers in the criminal justice system. Treatment Alternatives to Street Crime (TASC) initiatives, drug courts and other formal or informal criminal justice system mechanisms have the potential to identify and refer individuals who have not previously been treated, many of whom are not yet heavily involved in substance use. This early interruption of criminal and drug use cycles may have important long-term benefits in reducing both crime and substance use among treated offenders.

The set of findings replicated over four major data sets, covering different time periods, and using different samples, have important implications for treatment providers, policymakers, and researchers/evaluators. These findings imply that treatment providers can improve treatment services by continuing to address the complex therapeutic and logistical issues that arise in providing substance abuse treatment for criminal justice-involved individuals. Providers must also consider the need to match treatment services to the needs of criminal justice-involved clients and provide a beneficial array of comprehensive services as well. The findings serve to support policymakers in the effort to link criminal justice interventions with substance abuse treatment. Public policy may also benefit from exploration of the finding that criminal justice-involved individuals are seldom referred for methadone treatment. For researchers/evaluators, results show that more careful consideration is needed in defining the nature and process of criminal justice referral and monitoring. There is no common definition of legal pressure beyond simple involvement in the criminal justice system. Better descriptions and typologies of criminal justice-based referral and monitoring programs are also needed. While it is clear that criminal justice involvement has a positive effect on treatment outcome, it is not clear what components and processes contribute to this effect. To further increase the effectiveness and efficiency of treatment, it is critical to identify and implement key criminal justice components and processes.

I. INTRODUCTION

I. INTRODUCTION

Questions regarding treatment effectiveness for substance abusers involved with the criminal justice system are long-standing for treatment providers and policymakers (Leukefeld, 1991). The most recent analysis of the Treatment Episode Data Set (TEDS) reported that two of every five men and one of every four women admitted to treatment in the United States in 1998 were referred from the criminal justice system (Substance Abuse and Mental Health Services Administration [SAMHSA], 2001). Major new initiatives such as Proposition 36 in California (which allows many offenders to receive substance abuse treatment instead of incarceration), the expansion of therapeutic communities in prisons in Texas, and the introduction of drug courts throughout the country suggest the proportion is likely to increase. The large numbers of clients, the process for referral, and the design of treatment services require a comprehensive understanding and review of the many questions about treatment for substance abusers involved in the criminal justice system. To improve treatment for clients with criminal justice involvement, consideration of the nature and role of their involvement is critical (Leukefeld, 1991). While criminal behavior has long been studied as a key outcome of substance abuse treatment (Simpson & Friend, 1988; Anglin, 1988; Hubbard et al., 1989), information is sparse on areas critical to treatment services design and planning for criminal justice clients. Comprehensive typologies of criminal justice clients (Gerstein, Shin, & Zhang, 2001), the organization and structure of treatment services (Etheridge & Hubbard, 2000), and the process of treatment engagement (Knight, Hiller, Broome, & Simpson, 2000) are comparatively new areas of study.

The positive impact of treatment on the lessening of criminal behavior and the critical role of retention on treatment outcomes have been widely documented. The results, however, are drawn from a wide variety of studies, involve very diverse treatment services and clients, and use a variety of measurement and statistical methodologies. Few of the key results that have major policy and treatment practice importance are either directly replicated or include the major methodological and conceptual advances. Despite the differences and the lack of replication, the current evidence points to the extensive number of clients with criminal justice involvement, the effectiveness of treatment for these clients, and the positive role of criminal justice involvement on retention. There is, however, still a need for an in-depth re-examination of results and a careful accumulation of evidence to combat skepticism surrounding the effectiveness of treatment for the client involved with the criminal justice system. Some of the most persuasive evidence has come from a synthesis of the results of major national studies (Gerstein & Johnson, 1999). The importance of the current study lies in its use of multiple studies to accumulate convincing evidence of key findings.

Substance use and crime have always been closely linked. The demonstrated relationships between substance use and crime (Ball, Rosen, Flueck, & Nurco, 1981; Gandossy, Williams, Cohen, & Harwood, 1980; Panel on Drug Use and Criminal Behavior, 1976) led to the belief that reduction in substance use could help reduce criminal behavior, particularly predatory income-generating crime to support substance habits. The establishment of the Public Health Service Hospitals in Lexington and Fort Worth in the 1930s was based largely on this belief (Leukefeld, 1991). The outcomes for that effort, however, were not positive, and after leaving treatment and moving back to their communities, many individuals returned to substance use and crime. Criticisms of traditional criminal justice approaches to dealing with substance abusing offenders (Lipton, Martinson & Wilkes, 1975; Carter & Klein, 1976) echoed the need for alternative approaches. Jaffe (1979) reported a swinging of the pendulum back to medical from criminal justice approaches to reducing substance abuse in association with the massive effort to expand treatment services in the 1970s. The findings from the Drug Abuse Reporting Program (DARP) and other studies in the early 1970s that community-based substance abuse treatment reduces crime (Demaree & Neman, 1976; Long & Demaree, 1975; Simpson, Savage, Lloyd, & Sells, 1978; McGlothlin, Anglin, & Wilson, 1977; Nash, 1976) led to increased support for community-based treatment and for referral of substance abusers in the criminal justice system to treatment. One of the first major initiatives was the California Civil Addict Program (CCAP) in the 1960s (Anglin & McGlothlin, 1984). A second was the Treatment Alternatives to Street Crime (TASC) programs in the 1970s (Hubbard, Marsden, Cavanaugh, Rachal, & Ginzburg, 1988; Anglin et al., 1996). The current drug court initiatives are based on the continuing belief that treatment is an effective and cost-beneficial alternative for substance abusers involved with crime and the criminal justice system. If such initiatives are to be effective, it is important to better understand how they work.

In one of the first evaluations of the TASC initiative, systematic differences between legally involved clients and clients who were not involved in the criminal justice system were found in characteristics, retention, and outcomes among clients entering treatment in outpatient drug free and residential treatment (Hubbard et al., 1988). This analysis compared two groups of criminal justice clients – those who were referred to treatment through TASC and those who were involved with the criminal justice system but were not TASC. In the Treatment Outcomes Prospective Study (TOPS) data, about one half of the criminal justice clients in residential treatment, whether TASC or not, were on probation at the time of admission. In outpatient drug free treatment, slightly over half of the non-TASC criminal justice clients were on probation at admission, while about half of TASC clients were on bail, indicating pre-trial or pre-sentencing diversion. These findings indicated that TASC and non-TASC criminal justice clients were referred to the two types of substance abuse treatment at different stages of the legal process. The criminal justice system clients, especially TASC clients (85%), were disproportionately male compared to no legal involvement clients (57%). In general, males, clients aged 21-25, and

clients with no prior treatment were more likely to be involved with the criminal justice system. Marijuana or alcohol users were more likely to be referred than heroin users, especially to outpatient drug free treatment providers. The more recent analysis of criminal involvement of treatment clients in the National Treatment Improvement Evaluation Study (NTIES) (Gerstein et al., 2001) showed that clients involved with the criminal justice system also had extensive histories of criminal behavior.

Clients referred from the criminal justice system have been shown to stay in treatment longer than other clients (Collins & Allison, 1983), but Hiller, Knight, Broome, and Simpson (1998) pointed out differences in the definitions of "involvement" and "legal pressure" have led to inconsistent results. Their analysis using a three-level indicator of legal pressure found that clients with an official legal status, monitoring of drug use by urinalysis, and a legal reason for entering treatment were more likely to stay in treatment for 90 or more days. Treatment retention is an important contributor to treatment effectiveness (Simpson, 1981; Hubbard et al., 1989). If an individual leaves treatment within a few days, it is unlikely that treatment has permanently changed the characteristics or conditions that are related to his or her substance problem. Treatment of 3 months or more was found to be necessary to produce significant reductions in substance use (Hubbard et al., 1989; Simpson et al., 1997). Furthermore, the reductions in criminal behavior while individuals are in treatment generate a benefit cost ratio that clearly justifies the costs of treatment (Harwood, Collins, Hubbard, Marsden, & Rachal, 1988).

Their longer retention leads to an expectation that these criminal justice system clients will also have better treatment outcomes than other clients. The literature has not provided fully consistent results to support this expectation. The analysis of criminal behavior outcomes for clients in TOPS (1979-1981) and Drug Abuse Treatment Outcome Studies (DATOS) (1991-1993) showed that time in treatment had a positive effect on reduction of crime for clients after residential treatment in both studies, but the time in treatment effect found for outpatient clients in the TOPS data were not replicated in the DATOS results (Hubbard, Craddock, Flynn, Anderson, & Etheridge, 1997). The lack of replication was attributed to the major decreases in the availability of comprehensive services for outpatient clients.

This report summarizes the findings from four major national studies to examine the overall question of whether or not referral to substance abuse treatment through the criminal justice system benefits the client and society. Formal referral efforts may increase the number of substance abusers in the criminal justice system who are treated. Substance abusers in the criminal justice system are thought to be more unlikely than other substance abusers to seek treatment of their own accord. Non-volunteer clients, however, may be more difficult to treat than clients who to seek treatment on their own. Empirical evidence is needed to determine if

and how criminal justice system referral contributes to treatment outcomes of non-volunteer clients when compared to self-referral and other sources of referral. Clients who entered treatment and who are involved in the criminal justice system are the principal focus of the analyses presented in this report. A number of important questions were considered to assess the effectiveness of treatment and other types of criminal justice system involvement compared to clients with no legal involvement.

- How do clients involved with the criminal justice system differ from other clients entering treatment in terms of substance abuse treatment history and treatment needs?
- How successful are programs in retaining clients involved with the criminal justice system? Does involvement in structured referral initiatives such as TASC or additional perceived pressure from the criminal justice system such as supervised urine testing contribute to retention?
- Do criminal justice clients differ from other clients in the amount of comprehensive services received during treatment?
- Do substance use and criminal behavior of clients involved with the criminal justice system decrease during and after treatment? What role does criminal justice involvement play if there is a decrease?

The following chapters of this report describe the methodology used to address each of these questions. The findings are presented for each of the questions. The concluding chapter summarizes the key findings and discusses their implications for treatment services planning and practice and policy decisions. Further steps to investigate the issues in more depth with existing information are presented, and potential demonstration and data collection projects are suggested.

II. METHODS

II. METHODS

The methods used for this analysis involved the assembling of data from the four large, multisite, multimodality studies of treatment outcomes conducted over the past 25 years. The studies used diverse sampling techniques. All used similar definitions of key variables that were obtained by personal interviews with clients, including interviews covering the first year after leaving treatment. These similarities facilitated the use of a common model of analysis.

1. SAMPLING

Samples were drawn from four major treatment outcome studies: the Treatment Outcome Prospective Study (TOPS), the Drug Abuse Treatment Outcome Study (DATOS), the National Treatment Improvement Evaluation Study (NTIES), and the Alcohol and Drug Services Study (ADSS). The major differences in the samples were the sampling designs used.

The TOPS and DATOS samples were based on a purposive selection of communities with an involvement of all treatment providers within the community except in the largest cities. In the TOPS, five cities were selected for the criminal justice analysis because of the large Treatment Alternatives to Street Crime (TASC) programs in these cities. TASC programs referred large numbers of clients to the TOPS programs. Overall, TOPS included samples of 9,989 clients in 10 cities who entered 41 publicly funded outpatient methadone, residential, and outpatient drug free substance abuse treatment from 1979-1981 (Hubbard et al., 1989). A follow-up sample of 3,270 clients stratified by treatment type and time in treatment was selected for a follow-up 1 year after leaving treatment. All TASC clients who were admitted to one of the outpatient drug free and residential treatment settings in 1979 and 1980, and who completed an intake interview, were selected into the follow-up sample. The final TOPS analytic sample included 2,420 clients interviewed for the follow-up.

Included in the 11 cities participating in DATOS were providers in 6 of the cities that participated in TOPS to enable longitudinal comparisons. Overall, the DATOS sample included 10,010 clients entering outpatient methadone, long-term residential, outpatient drug free, and short-term inpatient programs from 1991-1993 (Flynn, Craddock, Hubbard, Anderson, & Etheridge, 1997). A follow-up sample of clients stratified by treatment type was selected for a follow-up 1 year after leaving treatment. Of the eligible sample of 4,229 clients, 2,966 were interviewed.

The NTIES sample was drawn from grant recipients of the Treatment Improvement Demonstration programs sponsored by the Office of Treatment Improvement (OTI), now the Center for Substance Abuse Treatment (CSAT). In accord with a prior agreement, different cities were to be selected for DATOS and NTIES. NTIES' total sample of 6,593 clients admitted to treatment in 1993 and 1994 was drawn from 78 sites. The analytic sample includes 4,411 clients from 71 treatment sites who were interviewed for the follow-up.

The ADSS employed a stratified probability sample of 280 treatment agencies with a second stage sampling of clients within each agency to provide statistically representative estimates for the United States. The follow-up study of discharged clients was conducted in 1998 and 1999 and includes records for 1,184 clients discharged from residential and outpatient treatment services in the previous year.

The samples used for analysis for the current models are limited to adult clients (18 years or older) in long-term residential and outpatient drug free treatment. There continue to be few referrals to methadone treatment from the criminal justice system. The total number of clients from each study used for the follow-up outcome analyses and their characteristics are shown in Exhibit II-1 (Outpatient Drug Free) and Exhibit II-2 (Residential). For the analyses of criminal justice involvement and retention, the total client sample was used, if available. For the analysis of services received, in TOPS and DATOS, only clients remaining in treatment for at least 3 months were included. For the other studies, the data from the recall reports obtained at the follow-up interviews were used.

EXHIBIT II-1				
DESCRIPTION OF OUTPATIENT DRUG FREE FOLLOW-UP STUDY POPULATIONS				
Client Characteristic/Demographic Variable	TOPS (n=561) %	DATOS (n=764) %	NTIES (n=1,607) %	ADSS (n=727) %
Gender				
Male	69.0	64.9	69.0	74.3
Female	31.0	35.1	31.0	25.7
Race				
Non-white	18.9	59.0	76.8	36.7
White	81.1	41.0	23.1	63.3
Age Category				
18 - 20	14.4	3.9	5.5	6.7
21 - 25	35.7	13.0	10.3	14.3
26 - 30	25.9	22.0	20.9	16.9
31+	17.1	61.1	63.4	62.0
Criminal Justice (CJ) Level/Pressure				
CJ pressure	44.4	41.3	38.6	24.3
CJ involvement	19.6	17.6	8.0	16.4
No CJ involvement/pressure	36.0	41.2	53.4	59.3
Prior Drug Treatment				
None	67.9	50.6	39.3	60.0
1-2 (or some)	19.0	33.7	37.3	40.0
Three or more	13.0	15.7	23.4	n/a
Substance Use Pattern				
Heroin/narcotics + cocaine/crack	3.6	5.1	5.7	3.6
Heroin/narcotics	22.1	4.2	4.7	2.3
Cocaine/crack	10.5	35.9	52.6	19.8
Alcohol & marijuana	29.4	8.3	3.6	12.0
Alcohol only	6.4	10.5	25.7	31.6
Marijuana and/or any other	19.1	7.1	5.7	7.4
Less than weekly use or no "main" drug	8.9	29.1	2.0	23.3

EXHIBIT II-2				
DESCRIPTION OF RESIDENTIAL FOLLOW-UP STUDY POPULATIONS				
Client Characteristic/Demographic Variable	TOPS (n=561) %	DATOS (n=764) %	NTIES (n=1,607) %	ADSS (n=727) %
Gender				
Male	78.4	64.6	68.6	72.3
Female	21.6	35.4	31.4	27.7
Race				
Non-white	41.5	64.5	70.8	54.7
White	58.5	35.5	29.3	45.3
Age Category				
18 - 20	14.6	2.5	15.5	2.3
21 - 25	37.9	18.2	29.3	9.3
26 - 30	25.7	29.4	22.5	15.9
31+	21.8	49.9	48.2	72.5
Criminal Justice (CJ) Level/Pressure				
CJ pressure	26.8	36.8	28.8	24.0
CJ involvement	42.4	29.6	61.6	15.6
No CJ involvement/pressure	30.8	33.6	9.6	60.5
Prior Drug Treatment				
None	43.3	42.1	43.9	45.3
1-2 (or some)	32.7	32.1	38.3	55.7
Three or more	24.0	25.9	17.8	n/a
Substance Use Pattern				
Heroin/narcotics + cocaine/crack	17.8	12.3	10.0	12.9
Heroin/narcotics	32.6	7.3	6.6	5.8
Cocaine/crack	10.9	56.5	56.8	40.8
Alcohol & marijuana	16.9	4.1	7.5	7.6
Alcohol only	3.0	5.6	10.0	15.9
Marijuana and/or any other	12.0	3.4	8.4	7.1
Less than weekly use or no "main" drug	6.9	10.8	0.9	10.1

2. VARIABLES

Similar concepts were used to create key analysis variables from the self-reports collected in the four studies. The specific questions used in the studies often differed, requiring careful selection and recoding. The basis for all the instrument development was the initial Drug Abuse Reporting Program (DARP), which was then substantially augmented in the TOPS research. The similarity of the measures used and their adherence to standard definitions, particularly for the criminal justice measures, facilitated the analyses. The key measures are the indicators of

criminal justice involvement and pressure, the time in treatment, the variety of services received, illegal activity, and alcohol and drug use. Each is briefly described below.

Standard measures of criminal justice system involvement are based on a self-reported status of being on probation or parole, in jail awaiting trial or sentencing, or referred through the criminal justice system. Hiller et al. (1998) described measures of more intense pressure from the criminal justice system. These measures included a direct mandate from the criminal justice system, intensive supervision (typically urine monitoring), or felt pressure to enter and remain in treatment. While all the studies had similar measures of criminal justice system involvement, there were major differences in the availability and comparability of pressure indicators. For these analyses, any of the previously mentioned indicators of pressure were used.

No direct self-report measure of a client's perception of legal pressure is included in the TOPS data. Clients with differing types of involvement with the criminal justice system were distinguished using self-report questionnaire items requiring responses with regard to TASC supervision, current legal status, and source of referral. The responses to these items were examined to develop definitions of (1) TASC clients, (2) other (non-TASC) criminal justice system clients, and (3) clients with no legal involvement. For the DATOS, the pressure measure used was the self-report that the client was being tested for drug use and the results were being reviewed in association with the requirements of the criminal justice system. For NTIES, a self-report of treatment being required or recommended by the criminal justice system was used to indicate pressure. For ADSS, the self-report of urine tests as a condition of probation or parole was used.

All studies established baseline data on alcohol and drug use, criminal behavior, and other behavior in the year before treatment, gathered data on events during treatment, and included samples of clients interviewed 1 year after they left treatment. To provide an overall indicator of patterns of substance use, a hierarchical substance use pattern was created (Hubbard et al., 1986a). This pattern was based on the self-report of frequency of use at least once a week or more often in TOPS, DATOS, and ADSS. In NTIES, the pattern of pre-treatment use was based on the self-report of the "main" substance use problems at admission. All studies also asked clients to report involvement in a variety of illegal activities. For this analysis, the measure was predatory illegal activities that included robbery, larceny, burglary, forgery, fraud, etc. Time in treatment was measured from the date of admission to the reported date of discharge. The array of comprehensive services in which a client could participate included psychological, vocational, family, legal, medical, financial, and educational. Although studies differed in their description of the services and in numbers of services listed, an arbitrary and parsimonious decision was made to use participation in two or more services as an indicator of more extensive participation in comprehensive services.

3. STATISTICAL METHODS

A major purpose of the analysis is to determine the key factors that affect treatment outcomes, primarily involvement with the criminal justice system. As described in previous studies, the characteristics and behaviors of clients entering each type of treatment service differed greatly (Hubbard, Cavanaugh, & Craddock, 1986) as did the nature of treatment received at each provider (Allison, Hubbard, & Rachal, 1985). Exhibits II-1 and II-2 illustrate major differences among outpatient drug free and residential treatment services in the proportion of clients involved with the criminal justice system. About one third of the clients in residential and outpatient drug free treatment were referred to treatment through the criminal justice system. Less than 10 percent of the methadone clients were referred by the criminal justice system. Because relatively few methadone clients were referred to treatment through the criminal justice system and even fewer reported any involvement with the criminal justice system at admission, the subsequent analyses were conducted for residential and outpatient drug free clients only. The analyses for the residential and outpatient drug free clients were conducted separately because each type of service treats very different client populations and has a different approach to treatment. The analyses focus on criminal justice involvement and on client behaviors the year before treatment and first year after leaving treatment.

Descriptive analyses comparing criminal justice and no legal involvement clients on legal status and prior treatment are discussed but not presented in the exhibits. More detailed comparisons of sociodemographic characteristics, substance use, and other behaviors are available in Hubbard et al. (1988) and Gerstein et al. (2001). Multivariate analyses were conducted to identify the influence of pressure or other criminal justice system involvement on retention and outcomes during and after treatment, particularly predatory illegal acts as an outcome variable. Prior research has found that all crime decreases after treatment, and crimes that are directly drug-related, most particularly drug sales, decrease much more than other crimes (Ball et al., 1981). For that reason, analyses of crime were restricted to the predatory illegal acts that victimize members of the general population (e.g., assault, robbery, burglary, theft, forgery, fraud, embezzlement, dealing in stolen property). Cocaine and alcohol use were chosen as the indicators of substance use because of their prevalence in the populations of clients served and their clinical and policy importance. The multivariate models are based on those developed and tested in the TOPS and DATOS (Hubbard et al., 1998). The linear and logistic regression models are intended to control for other key explanatory variables, including gender, ethnicity, substance use patterns, prior treatment, and extent of illegal activity. The main variable of interest is a three-level hierarchical indicator of involvement in the criminal justice system and evidence of criminal justice system pressure. In the regression models the indicator is entered as two dummy variables with no legal involvement as the comparison case.

The following chapter contains findings from the analyses described above. These findings provide answers to the analytic questions listed in the Introduction to this report. Specifically, the findings describe (1) characteristics of criminal justice-involved and non-involved clients, (2) the effects of criminal justice involvement or legal pressure on treatment retention, (3) comprehensive services received by criminal justice-involved clients, and (4) change in substance use and criminal behavior after treatment.

III. FINDINGS

III. FINDINGS

In the following sections, the results from six different types of analyses are presented. The results of the analyses are presented separately for each data set. The replication of results is discussed for each of the four major questions of interest.

1. CHARACTERISTICS OF CLIENTS DIFFERING IN CRIMINAL JUSTICE SYSTEM INVOLVEMENT

Multivariate analyses were conducted to examine the question of differences between clients involved with the criminal justice system and those not involved. A variety of factors (e.g., gender, ethnicity, prior treatment, substance use pattern) were included in models to identify factors that were significantly associated with involvement with the criminal justice system, independent of criminal justice pressure. Odds ratios for gender, age, ethnicity, prior treatment, and substance use pattern were calculated by logistic regression procedures.

Exhibits III-1 and III-2 present the comparisons between outpatient and residential treatment, in which significant differences were found. In general, males were more likely to be involved with the criminal justice system in both residential and outpatient types of treatment ($p < .01$) in all data sets. The other variables were found to have mixed effects. There appears to be a tendency for younger clients in outpatient drug free settings to be involved with the criminal justice system, but only three of the eight odds ratios are statistically significant. In residential settings, Caucasian clients appear more likely to be involved in the criminal justice system. In both the Treatment Outcomes Prospective Study (TOPS) and National Treatment Improvement Evaluation Study (NTIES), the odds ratios are statistically significant ($p < .01$).

It also appears that clients who reported no use, less than weekly use, or no main drug in the year before treatment (minimal users) had the highest relative likelihood of involvement in the criminal justice system (significant in 9 of the 24 comparisons). The high rate of minimal users among clients reporting criminal justice involvement may be attributable to the fact that these clients may be referred to treatment early in their substance abuse cycles. It may also be that many criminal justice clients (especially those in residential treatment) are in jail or prison just prior to treatment admission, thus lowering their pre-treatment substance use. These findings from multivariate analyses comparing all criminal justice system clients with those with no legal involvement yielded similar patterns of results across all the data sets.

EXHIBIT III-1
PREDICTING CRIMINAL JUSTICE INVOLVEMENT/PRESSURE IN
OUTPATIENT DRUG FREE TREATMENT

	TOPS (n=505) OR	DATOS (n=762) OR	NTIES (n=1,607) OR	ADSS (N=724) OR
Female vs. male	0.20***	0.64**	0.44***	0.56**
Non-white vs. white	2.30**	1.17	1.00	0.72 ^a
18-20 vs. 31 & over	2.02	2.05	3.00**	2.06
21-25 vs. 31 & over	2.29*	2.55*	2.00	1.62
No prior treatment vs. any prior treatment	1.40	0.79	0.79	2.06***
Heroin/other narcotics + cocaine/crack vs. less than weekly use/no main drug	0.27	0.19*	0.33	1.26
Cocaine/crack vs. less than weekly use/no main drug	0.33	0.22***	0.12***	1.04
Alcohol only vs. less than weekly use/no main drug	1.64**	0.29	0.23**	0.76

^a p<.10; * p<.05; ** p<.01; *** p<.001

EXHIBIT III-2
PREDICTING CRIMINAL JUSTICE INVOLVEMENT/PRESSURE IN
RESIDENTIAL TREATMENT

	TOPS (n=296) OR	DATOS (n=672) OR	NTIES (n=1,536) OR	ADSS (N=397) OR
Female vs. male	0.37***	0.43***	0.60***	0.26***
Non-white vs. white	0.42***	0.72 ^a	0.56***	0.69
18-20 vs. 31 & over	4.18*	1.27	0.48***	0.74
21-25 vs. 31 & over	2.89	1.75	1.18*	2.41*
No prior treatment vs. any prior treatment	1.03	1.04	1.01	1.07
Heroin/other narcotics + cocaine/crack vs. less than weekly use	0.17	0.19*	0.45	0.62
Cocaine/crack vs. less than weekly use	0.17	0.15***	0.39***	0.57
Alcohol only vs. less than weekly use	0.10	0.39	0.50	0.16***

^a p<.10; * p<.05; ** p<.01; *** p<.001

2. TREATMENT RETENTION

Treatment retention is an important contributor to treatment effectiveness. Regression analyses were conducted to address more fully the effects of criminal justice involvement and legal pressure on treatment retention.

The general linear multiple regression models included variables controlling for gender, age, ethnicity, prior treatment admissions, and substance use pattern in the year before treatment. Both involvement with the criminal justice system and legal pressure were associated with longer retention. The F-test values for the main effects (i.e., Type III sum of squares) are significant in six of the eight regression models, as shown in Exhibits III-3 and III-4. The effect of criminal justice involvement and pressure is similar in the regression models for outpatient drug free and residential treatment settings. In general, the Duncan Multiple Range Tests showed that the difference between no involvement and criminal justice pressure was approximately 30 additional days in treatment. The differences between pressure and involvement were not significant. For the outpatient samples in DATOS, the effect of legal pressure was replicated. In NTIES, there was a significant 35-day difference between the criminal justice-involved clients and the non-involved clients only. In both TOPS and NTIES, the main effects for Criminal Justice Level/Pressure were statistically significant ($p < .05$), and for the DATOS and ADSS samples, the coefficients showed tendency toward accepted levels of significance ($p < .10$).

EXHIBIT III-3				
PREDICTING RETENTION IN OUTPATIENT DRUG FREE TREATMENT				
	TOPS (n=1,181)	DATOS (n=762)	NTIES (n=1,607)	ADSS (n=724)
R-square	0.033	0.06	0.024	0.036
Mean days in treatment	101.43	161.7	142.2	169.3
Main Effects				
	F-value	F-value	F-value	F-value
Gender	11.84***	3.77 ^a	6.52*	3.76 ^a
Ethnicity	0.04	0.21	0.68	1.55
Age category	0.20	2.71*	1.11	1.45
Prior drug treatment	0.07	0.68	1.53	0.06
CJ level/pressure	8.48***	2.60 ^a	3.45*	3.00 ^a
Substance use pattern	1.21	3.71**	3.11**	2.38*
Duncan Multiple Range Test				
Criminal Justice (CJ) Level/Pressure	Mean Days	Mean Days	Mean Days	Mean Days
CJ pressure	120 ^b	177 ^b	148	186
CJ involvement	101	166	169 ^b	184
No CJ involvement/pressure	91	144	134	158

^a $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

^b Significant at $p < .05$ as compared to No CJ involvement/pressure.

Exhibit III-4 shows that in the TOPS and ADSS, criminal justice clients in residential treatment stayed longer than clients with no legal involvement. Among TOPS clients, criminal justice-involved clients stayed 58 days longer ($p < .01$) than non-involved clients. This result was replicated in the ADSS study ($p < .01$) but not the DATOS and NTIES samples.

EXHIBIT III-4 PREDICTING RETENTION IN RESIDENTIAL TREATMENT				
	TOPS (n=1,075)	DATOS (n=676)	NTIES (n=1,536)	ADSS (n=397)
R-square	0.034	0.02	0.012	0.105
Mean days in treatment	175.6	187.9	121.7	78
Main Effects				
	F-value	F-value	F-value	F-value
Gender	1.05	0.01	0.97	0.73
Ethnicity	0.38	0.07	0.18	4.43*
Age category	2.59 ^a	0.78	0.88	1.15
Prior drug treatment	0.73	2.30	0.37	0.10
CJ level/pressure	9.25***	0.63	0.68	5.28**
Substance use pattern	0.41	1.50	1.18	2.04 ^a
Duncan Multiple Range Test				
Criminal Justice (CJ) Level/Pressure	Mean Days	Mean Days	Mean Days	Mean Days
CJ pressure	184	190 ^b	131	116 ^b
CJ involvement	201 ^b	197	123	88
No CJ involvement/pressure	143	177	118	61

^a $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

^b Significant at $p < .05$ as compared to No CJ involvement/pressure.

3. SERVICES RECEIVED

Clients entering substance abuse treatment from the criminal justice system may have a unique set of treatment needs that require more intense and different types of services. Furthermore, the degree of coercion used to get clients to enter and remain in treatment may affect their treatment responses.

In outpatient treatment, less than half of all clients received two or more types of services during treatment (see Exhibit III-5). All the regression models for outpatient drug free clients indicated the criminal justice clients were less likely to receive two or more services. Those with evidence of criminal justice pressure were significantly less likely to receive two or more services in three of the four data sets. Except for the ADSS data, where the odds ratio

approaches but does not achieve significance ($p < .10$), the odds ratios in all other data sets are statistically significant ($p < .05$).

EXHIBIT III-5				
PREDICTING SERVICES RECEIVED DURING OUTPATIENT DRUG FREE TREATMENT				
	TOPS* (n=296)	DATOS* (n=480)	NTIES (n=1,208)	ADSS (n=724)
Percent with 2 or more services	44.3%	15.6%	48.7%	33.3%
Criminal Justice Involvement/Pressure				
CJ involvement vs. no involvement/no pressure	OR 0.52	OR 0.84	OR 0.69	OR 0.40**
CJ pressure vs. no involvement/no pressure	0.37*	0.82*	0.53**	0.94 ^a

^a $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Notes: Other variables in the model were gender, age, race, drug use pattern, and prior drug treatment. TOPS and DATOS results are restricted to those in treatment at least 3 months.

Looking within databases, outpatient drug free clients are much less likely to report two or more comprehensive services than residential clients (see Exhibits III-5 and III-6). Within outpatient drug free programs in TOPS, DATOS, and NTIES, clients with criminal justice pressure have decreased odds of receiving two or more services. In contrast, most of the odds ratios shown in Exhibit III-6 (residential treatment) indicate that criminal justice-involved clients have a slightly greater likelihood of participating in comprehensive services; however, there is no consistent pattern of statistically significant results. The similar level of services received across all legal involvement categories is consistent with the uniform therapy process for every client served by a residential treatment provider.

EXHIBIT III-6				
PREDICTING SERVICES RECEIVED DURING RESIDENTIAL TREATMENT				
	TOPS (n=443)	DATOS (n=433)	NTIES (n=1,308)	ADSS (n=397)
Percent with 2 or more services	77.7%	42.7%	67.3%	63.2%
Criminal Justice Involvement/Pressure				
CJ involvement vs. no involvement/no pressure	OR 0.91	OR 0.85	OR 1.34**	OR 2.54
CJ pressure vs. no involvement/no pressure	0.72	1.42*	1.84	2.32

^a $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Notes: Other variables in the model were gender, age, race, drug use pattern, and prior drug treatment. TOPS and DATOS results are restricted to those in treatment at least 3 months.

4. TREATMENT OUTCOMES

This section presents findings related to the fourth analysis question, do substance use and criminal behavior of criminal justice-involved clients change during and after treatment? Behavior during treatment, post-treatment criminal behavior, and post-treatment substance use are examined and discussed.

4.1 Behavior During Treatment

Given the high rate of illegal activity of criminal justice-involved clients before treatment, reductions during treatment have societal benefits, even if the reductions are not maintained after the clients leave treatment. In all the data sets, it is important to note that levels of a variety of indicators such as substance use, depression symptoms, predatory illegal acts, and full-time employment reported by outpatient drug free clients improved during treatment compared to the year before treatment.

For example, TOPS outpatient drug free Treatment Alternatives to Street Crime (TASC) clients reported improvement during treatment for each outcome measure. Lower percentages of clients reported regular use of their primary problem substance, fewer reported depression symptoms, only a few reported predatory illegal acts, and more clients reported working full-time most of the time. Other TOPS outpatient drug free criminal justice-involved clients also improved after entering treatment. Primary problem substance use and depression symptoms decreased, and fewer clients reported predatory illegal acts. There was little or no improvement in reports of full-time work during the first 6 months in treatment for other criminal justice clients. The outpatient drug free clients with no legal involvement or pressure also showed improvement in each outcome category. Their improvements, however, were not as marked as those of one or both of the legally involved clients' groups for each outcome measure. The results of these findings "during treatment" must be cautiously interpreted, however, because the number of cases was small, and other factors, such as the opportunity to use drugs, work, or commit crimes, were not integrated into the analysis. Despite these limitations, the findings are promising; results indicate improvement in almost every treatment outcome measure.

Data for residential clients are not typically presented because clients who are monitored 24 hours a day have virtually no substance use or illegal activity and usually are not allowed to work outside the treatment setting, at least in the early stages of treatment. In TOPS, TASC clients and other criminal justice clients reported less reduction in depression symptoms during treatment than similar clients in outpatient drug free treatment or clients in either residential or outpatient drug free treatment who were not legally involved.

4.2 Post-treatment Criminal Behavior

The analyses in this section focus on predatory illegal acts after treatment for outpatient drug free treatment and residential treatment, respectively. The effects of criminal justice system involvement are summarized in Exhibits III-7 and III-8. Multivariate analyses were conducted to compare the impact of legal pressure and criminal justice system involvement on commission of predatory illegal acts in the year after treatment in the four data sets. Regression models were developed, which included gender, age, race/ethnicity, pre-treatment substance use patterns, previous treatment admissions, and criminal justice involvement as well as length of time in treatment.

EXHIBIT III-7				
PREDICTING POST-TREATMENT ILLEGAL ACTIVITY IN OUTPATIENT DRUG FREE TREATMENT				
	TOPS (n=495)	DATOS (n=725)	NTIES (n=1,567)	ADSS (n=724)
Percent with pre-treatment illegal acts	38.5%	20.7%	37.5%	16.6%
Percent with post-treatment illegal acts	22.2%	8.8%	14.7%	7.0%
	OR	OR	OR	OR
Prior Drug Treatment				
Prior treatment vs. no treatment	2.04**	1.43	1.91*	1.81 ^a
Pre-treatment Predatory Illegal Acts				
Illegal activity vs. no illegal activity	3.24***	3.54***	3.53	11.28***
Retention in Treatment				
4 weeks or less vs. 3 months or more	1.77*	0.48	3.77***	1.64
4-13 weeks vs. 3 months or more	1.19	1.07	2.00	1.16
Criminal Justice Involvement/Pressure				
CJ involvement vs. no involvement/pressure	1.63	2.24 ^a	1.21*	1.07
CJ pressure vs. no involvement/pressure	1.45	1.54	2.10**	1.15

^a p<.10; * p<.05; ** p<.01; *** p<.001

For outpatient clients, there is little evidence of an effect of criminal justice involvement. Although all the odds ratios are positive, only the NTIES sample yielded significant results. The lack of a time in treatment effect is also apparent. The results for residential clients are mixed. There are significant effects in the TOPS analyses, but the results are not replicated in the other samples.

The regression results in Exhibits III-7 and III-8 show how particular characteristics are associated with post-treatment predatory illegal acts. A risk factor greater than 1 indicates an individual with a particular characteristic is more likely to commit predatory illegal acts post-treatment than similar individuals without that characteristic. A risk factor less than 1 indicates an individual with that characteristic is less likely to commit predatory illegal acts post-treatment.

EXHIBIT III-8				
PREDICTING POST-TREATMENT ILLEGAL ACTIVITY IN RESIDENTIAL TREATMENT				
	TOPS (n=421)	DATOS (n=624)	NTIES (n=1,110)	ADSS (n=396)
Percent with pre-treatment illegal acts	64.7%	39.1%	50.3%	28.7%
Percent with post-treatment illegal acts	40.4%	14.6%	19.8%	12.1%
	OR	OR	OR	OR
Prior Drug Treatment				
Prior treatment vs. no treatment	1.14	1.21	1.09	3.17**
Pre-treatment Predatory Illegal Acts				
Illegal activity vs. no illegal activity	1.91**	2.73***	2.73***	6.4***
Retention in Treatment				
4 weeks or less vs. 3 months or more	1.90	1.70		3.41 ^a
4-13 weeks vs. 3 months or more	2.20 ^a	2.11		2.90
Criminal Justice Involvement/Pressure				
CJ involvement vs. no involvement/ pressure	0.91*	0.97 ^a		0.34*
CJ pressure vs. no involvement/pressure	2.05**	1.66*		1.27 ^a

^a p<.10; * p<.05; ** p<.01; *** p<.001

The former clients were categorized as committing one or more predatory illegal acts in the year after leaving treatment or as not committing any such act. Exhibits III-7 and III-8 show the effects of comparative risk for the four major variables of interest in this analysis: prior treatment, pre-treatment predatory illegal acts, retention in treatment, and criminal justice system involvement. As one might expect, reports of committing illegal acts in the year prior to treatment is strongly related to the probability that illegal acts will be committed in the year after treatment.

Outpatient drug free clients who had been in substance abuse treatment before the treatment episode of interest in all data sets were more likely to commit predatory illegal acts after treatment than those who had not been in substance abuse treatment previously. A similar (though not statistically significant) relationship was found for residential clients; those with prior treatment were somewhat more likely to commit predatory illegal acts in the year after treatment.

For residential clients in all data sets, short retention in treatment was positively related to higher post-treatment illegal activity but was not significant. For outpatient drug free clients in TOPS and NTIES, staying in treatment 4 weeks or less almost doubled (TOPS, $p < .05$) or quadrupled (NTIES, $p < .001$) the chances of committing predatory illegal acts after treatment compared to staying in treatment more than 3 months. For both residential and outpatient drug free clients, staying in treatment between 4 and 13 weeks positively increased the odds of post-treatment illegal activity, but none of the findings reached the $p < .05$ level of significance.

The criminal justice involvement variables did not predict significant variation in the likelihood of post-treatment predatory illegal acts after outpatient treatment when the other factors in the models were controlled. For the residential clients, perception of criminal justice pressure increases the likelihood of post-treatment illegal acts across all data sets. In the TOPS data, similar findings were obtained when post-treatment measures of the number of predatory illegal acts, corrected for time-at-risk, were used as the dependent variables (Marsden, Collins, & Hubbard, 1986). Longer retention, however, tends to be associated with lower numbers of predatory illegal acts. By increasing retention in treatment, criminal justice referrals may have a greater impact on post-treatment predatory illegal acts than is indicated in the regression analysis.

4.3 Post-treatment Substance Use

The effect of criminal justice involvement for cocaine and heavy alcohol use after treatment was examined in separate multivariate models. See Exhibits III-9 and III-10 for cocaine and Exhibits III-11 and III-12 for alcohol use.

EXHIBIT III-9				
POST-TREATMENT WEEKLY OR MORE FREQUENT COCAINE/CRACK USE FOR OUTPATIENT DRUG FREE TREATMENT				
	TOPS (n=492)	DATOS (n=762)	NTIES (n=1,607)	ADSS (n=724)
Percent with pre-treatment cocaine use	14.1%	59.0%	66.7%	23.4%
Percent with post-treatment cocaine use	7.7%	14.0%	14.8%	8.4%
	OR	OR	OR	OR
Prior Drug Treatment				
Prior treatment vs. no treatment	1.58	3.04***	2.32**	2.06*
Pre-treatment Cocaine Use				
Regular vs. less than regular use	6.71	2.14**	9.04***	11.72***
Retention in Treatment				
4 weeks or less vs. 3 months or more	2.21	2.50	2.28	1.90
4-13 weeks vs. 3 months or more	1.46	1.99	2.90***	1.44
Criminal Justice Involvement/Pressure				
CJ involvement vs. no involvement/ pressure	0.71	1.99	1.51	0.82
CJ pressure vs. no involvement/pressure	0.59	1.77	2.20	1.76 ^a

^a p<.10; * p<.05; ** p<.01; *** p<.001

EXHIBIT III-10				
POST-TREATMENT WEEKLY OR MORE FREQUENT COCAINE/CRACK USE FOR RESIDENTIAL TREATMENT				
	TOPS (n=418)	DATOS (n=673)	NTIES (n=1,536)	ADSS (n=396)
Percent with pre-treatment cocaine use	28.8%	68.8%	66.7%	53.7%
Percent with post-treatment cocaine use	14.1%	20.5%	15.4%	26.5%
	OR	OR	OR	OR
Prior Drug Treatment				
Prior treatment vs. no treatment	2.57**	1.63*	1.42*	1.96*
Pre-treatment Cocaine Use				
Regular vs. less than regular use	3.91***	4.97***	4.55***	10.71***
Retention in Treatment				
4 weeks or less vs. 3 months or more	2.02	3.66**	3.70 ^a	2.88 ^a
4-13 weeks vs. 3 months or more	1.49	2.36	1.94	2.83
Criminal Justice Involvement/Pressure				
CJ involvement vs. no involvement/pressure	1.93	0.99	1.24	1.18
CJ pressure vs. no involvement/pressure	1.91	1.57*	0.73*	1.14

^a p<.10; * p<.05; ** p<.01; *** p<.001

EXHIBIT III-11				
POST-TREATMENT WEEKLY OR MORE FREQUENT ALCOHOL USE FOR OUTPATIENT DRUG FREE TREATMENT				
	TOPS (n=491)	DATOS (n=749)	NTIES (n=1,480)	ADSS (n=717)
Percent with pre-treatment alcohol use	62.5%	44.7%	54.9%	62.1%
Percent with post-treatment alcohol use	57.8%	29.0%	28.9%	35.0%
	OR	OR	OR	OR
Prior Drug Treatment				
Prior treatment vs. No treatment	1.22	1.22	0.97*	1.47*
Pre-treatment Alcohol Use				
Regular alcohol use vs. less than regular use	5.36***	3.29***	2.43***	5.36***
Retention in Treatment				
4 weeks or less vs. 3 months or more	1.60	1.77	2.41	1.27
4-13 weeks vs. 3 months or more	1.33	1.56	2.00	1.02
Criminal Justice Involvement/Pressure				
CJ involvement vs. no involvement/pressure	0.96	1.22	1.45	1.00
CJ pressure vs. no involvement/pressure	1.06	1.54 ^a	1.70*	0.82

^a p<.10; * p<.05; ** p<.01; *** p<.001

EXHIBIT III-12				
POST-TREATMENT WEEKLY OR MORE FREQUENT ALCOHOL USE FOR RESIDENTIAL TREATMENT				
	TOPS (n=414)	DATOS (n=659)	NTIES (n=1,004)	ADSS (n=391)
Percent with pre-treatment alcohol use	63.8%	55.0%	46.2%	64.2%
Percent with post-treatment alcohol use	52.2%	24.7%	22.0%	30.7%
	OR	OR	OR	OR
Prior Drug Treatment				
Prior treatment vs. no treatment	0.76	0.97	0.84	1.11
Pre-treatment Alcohol Use				
Regular alcohol use vs. less than regular use	2.09***	4.33***	1.74***	8.54***
Retention in Treatment				
4 weeks or less vs. 3 months or more	1.37	2.77*	2.36*	4.48***
4-13 weeks vs. 3 months or more	0.91	2.36	2.17*	2.09
Criminal Justice Involvement/Pressure				
CJ involvement vs. no involvement/pressure	0.65	0.82	0.75	1.12
CJ pressure vs. no involvement/pressure	0.83	1.01	0.81	1.44

^a p<.10; * p<.05; ** p<.01; *** p<.001

The results indicated that criminal justice system involvement is not consistently related to post-treatment cocaine or alcohol use. These results can be interpreted to support the conclusion that substance abuse treatment has a consistent positive effect on substance use of all clients, regardless of the level of criminal justice involvement.

The following chapter contains a summary of the analyses and findings. It also contains a discussion of the implications of these findings for treatment providers, policymakers, and researchers/evaluators.

IV. SUMMARY AND IMPLICATIONS

IV. SUMMARY AND IMPLICATIONS

Large proportions of substance abusers entering treatment, perhaps more than half, are involved in some way with the criminal justice system. An even higher percentage have a criminal justice history (Gerstein et al., 2001). Information about these clients, the treatment they receive, and the outcomes they experience should provide guidance to help improve the effectiveness and efficiency of treatment. The results of this analysis will contribute to this information. The application of this knowledge should help policymakers and substance abuse treatment system managers design, implement, and support treatment services for substance abusers involved with the criminal justice system.

1. SUMMARY

This report used data from four national studies of substance abuse treatment outcomes to answer four key questions about treatment for clients involved with the criminal justice system or under pressure from the criminal justice system to receive treatment compared to those clients without any criminal justice involvement. The major questions addressed how the levels of criminal justice involvement (not involved, involved, under pressure) related to time in treatment, the level of services received during treatment, and the likelihood of post-treatment illegal behavior and substance use.

The four data sets used included follow-up data for approximately 3,700 outpatient drug free and 3,100 long-term residential clients entering substance abuse treatment over a 20-year period. The Treatment Outcome Prospective Study (TOPS) analytic sample included admissions in five U.S. cities from 1979-1981; the Drug Abuse Treatment Outcome Study (DATOS) replicated the TOPS study in 11 cities from 1991-1993; the National Treatment Improvement Evaluation Study (NTIES) included clients in 78 treatment programs participating in treatment improvement demonstration projects from 1993-1994; and the Alcohol and Drug Services Study (ADSS) was based on a nationally representative sample of substance abuse treatment admissions from 1997-1998. Similar data on key measures of criminal justice involvement, illegal activity, and substance use were collected from personal interviews with clients. The data were recoded, so that consistent multivariate regression analyses could be replicated across the data sets. The major predictor variable was criminal justice involvement, defined through a self-report as being on probation, on parole, or in jail awaiting trial or sentencing at the time of admission to treatment. The definition of legal pressure varied from study to study. The definition was participation in the Treatment Alternatives to Street Crime (TASC) referral and monitoring program for the TOPS study, reporting urine monitoring in the DATOS and ADSS

studies, and a perception of being required to participate in treatment in NTIES. The multivariate models designed to address each of the key questions also controlled for gender, age, prior treatment, and pre-treatment substance abuse pattern. Multivariate models were run separately for outpatient drug free and long-term residential clients.

Despite differences in sampling techniques and a span of over 20 years during which the treatment system evolved from Federal to state to managed care, a number of results were replicated consistently across all data sets with statistical significance. Other results were replicated across two or more data sets, while yet other results were more largely mixed. One major finding was that large numbers of clients were involved with or under pressure from the criminal justice system. A substantial percentage of outpatient drug free clients reported being under criminal justice pressure to participate in treatment. The proportions ranged between a low of 24 percent in ADSS and a high of 44 percent in TOPS. Only 36 percent of clients in TOPS, 41 percent in DATOS, 59 percent in ADSS and 53 percent in NTIES were not involved with the criminal justice system at the time of treatment intake. In residential samples, even fewer reported no criminal justice involvement or pressure, i.e., 31 percent in TOPS, 34 percent in DATOS, 60 percent in ADSS and 10 percent in NTIES. Approximately 3 of every 10 clients in long-term residential treatment reported being under criminal justice pressure.

The clients who were involved with the criminal justice system were twice as likely to be male, whether in outpatient or residential treatment. For outpatient treatment, criminal justice-involved clients were consistently younger, a result that was not replicated in the residential analyses. For residential treatment, clients involved with the criminal justice system were more likely to be non-Hispanic Caucasians. No other characteristics appeared to be related to the likelihood of criminal justice involvement in either outpatient or residential clients.

The involvement with the criminal justice system for outpatient clients was generally, but not always, statistically significantly related to longer retention across all four data sets. The typical additional retention in treatment attributable to criminal justice involvement was approximately 30 days. This finding was replicated in the TOPS and ADSS samples but not replicated in the DATOS and NTIES residential analysis. Despite their probability of a longer stay in outpatient treatment, clients reporting criminal justice pressure were less likely than those without legal pressure or involvement to receive two or more types of comprehensive services. The criminal justice involvement of clients in residential treatment did not appear to be related to the receipt of services.

After taking into account the pre-treatment involvement in illegal activity and the retention in treatment, the outcomes for criminal justice-involved or legally pressured clients

appear to be just as positive as for clients not involved in the criminal justice system. This was true for the post-treatment outcomes for substance use (cocaine or alcohol) and illegal activity in the year after treatment.

The results of the analyses support the basic belief that criminal justice-involved clients achieve substantial reductions in problem behaviors and, indeed, do as well or better than other clients in substance abuse treatment. In many cases, retention is increased, and outcomes are similar to other clients with equivalent backgrounds and experience. Such findings lend support to the general concept of identification and referral to treatment of substance abusers in the criminal justice system. Treatment Alternatives to Street Crime (TASC) initiatives, drug courts and other formal or informal criminal justice system mechanisms have the potential to identify and refer individuals who have not previously been treated, many of whom are not yet heavily involved in substance use. This early interruption of criminal and drug use cycles may have important long-term benefits in reducing both crime and substance use among treated offenders.

Criminal justice system pressure and involvement help retain clients in treatment. The estimated additional 4 weeks of retention for criminal justice-involved clients in outpatient treatment provides important additional time for rehabilitation efforts. There also seemed to be more substantial changes in behavior during treatment for criminal justice clients. The set of findings replicated over four major data sets, covering different time periods and using different samples of programs provides results that have important policy, treatment practice and research implications.

2. IMPLICATIONS FOR TREATMENT PROVIDERS

The implications of the analysis for substance abuse treatment providers point to the need to consider the complex therapeutic and logistical issues in treating increasing numbers of criminal justice-involved clients in community-based treatment settings. Closer collaboration between the treatment and criminal justice communities can improve the dual objectives of safer communities and individual rehabilitation.

Another finding of major concern is that criminal justice clients in outpatient drug free treatment received fewer services than other clients enrolled in the same treatment providers' services. Although criminal justice clients may report fewer substance use-related problems than clients with no legal involvement, they still report a wide array of problems. The reasons for differential service delivery for clients from various referral needs careful examination.

A key issue for substance abuse treatment providers is the improved assessment of potential clients for placement in the most appropriate treatment with the most beneficial array of comprehensive services. As noted below, methadone treatment is not optimally utilized for criminal justice-involved clients. Further, the referral process can help insure that there is a continuum between identification in the criminal justice system and the engagement and retention in treatment. More formal procedures and clarity of sanctions could lead to higher rates of engagement, longer retention, and subsequently, more positive outcomes.

3. IMPLICATIONS FOR POLICYMAKERS

The major public policy implication of the analysis is that positive outcomes are achieved by clients involved with the criminal justice system. This finding provides strong support for the argument that treatment can and does have a beneficial effect for substance abusers involved with the criminal justice system, especially abusers identified at younger ages. The role of treatment linked with criminal justice interventions may benefit from being supported and strengthened. There is a need, as well, for careful and continuing evaluation of those criminal justice interventions and the substance abuse treatment programs serving criminal justice clients to facilitate their continuing improvement.

Another major finding with public policy implications in this analysis is that few clients involved with the criminal justice system enter methadone treatment. The reasons for the low number of referrals to methadone treatment need to be explored. Many heroin addicts in the criminal justice system could likely benefit from methadone treatment to reduce their criminal behavior.

These findings support the efforts to continue and expand efforts to link criminal justice with treatment programs. Criminal justice system-based interventions such as TASC and drug courts have a broad mandate to identify and refer substance abusers in the criminal justice system to treatment. It is clear from this analysis, however, that a large number of individuals entering substance abuse treatment have some involvement with the criminal justice system but are not formally referred or do not perceive pressure from the criminal justice system. In some cases, individuals were not identified by the criminal justice system, were not considered to be eligible for treatment, or were not selected/allowed to enroll for other reasons, such as the decision of the judge or prosecutor. They may have enrolled, however, in treatment on their own or at the suggestion of an attorney to improve their outcome in a criminal case.

4. IMPLICATIONS FOR RESEARCHERS/EVALUATORS

Some recommendations for exploring and analyzing the link between criminal justice involvement and drug abuse treatment can be suggested. Greater attention needs to be given to the description and measurement of the treatment referral process to assess its effects on substance abuse treatment engagement and retention. In addition, the key variables of nature and extent of criminal justice pressure, particularly for substance abusers with differing types of criminal justice involvement (e.g., probation versus parole), need to be carefully defined and assessed from both client- and system-level perspectives.

Consideration also needs to be given to the design of future analyses of criminal justice involvement. TASC initiatives have been shown to identify and refer more individuals to treatment than would be expected from a less formal referral system. The evidence of the efficacy of criminal justice referral demonstrated in the data presented in this report supports the belief that a formal and comprehensive initiative such as TASC can produce benefits that far outweigh its costs. The data in the four studies included in this analysis do not include a description of the structure and process of formal criminal justice initiatives and referral processes other than TASC. Further studies are needed to identify these mechanisms and to determine how they complement the TASC initiatives.

The study of the role of criminal justice involvement in substance abuse treatment is made more difficult because of the inherent complexity of the relationship between courts and treatment systems, and the variability across jurisdictions in criminal justice systems and treatment systems. Study design and analysis may benefit by consideration of multilevel models and potential effects. A more complex methodology such as path analysis would be a more appropriate way to demonstrate the overall impact of criminal justice involvement. Criminal justice clients appeared to be at earlier stages of their substance use and criminal cycles. It is reasonable to expect that substance abuse treatment may moderate the increasing seriousness of substance use and criminal behavior for younger criminal justice clients. Furthermore, some potential differential outcomes of clients involved in the criminal justice system may be obscured by differences in clients' motivations for treatment that were not included in the analysis.

5. FUTURE STEPS

As described above, these findings lend further impetus to efforts to divert substance abusers from the criminal justice system to the treatment system. The results of several large-scale national studies point to major reductions in drug and alcohol use, equivalent to those of individuals entering treatment of their own volition. At the same time, the more limited access to

treatment services of criminal justice clients coupled with their greater retention suggests that even more can be accomplished with this population. The applicability of current clinical interventions with criminal justice-involved clients will need to be examined.

Other issues may require more refined analysis of existing data or the design of more in-depth studies to address the nature and extent of criminal justice involvement. Clearly, additional conceptual, measurement, and empirical consideration needs to be given to the concept of criminal justice pressure. The term has a number of diverse meanings. Clearer and more complete definition and measurement may help clarify the term and subsequently improve the interpretation of findings, as well as the development of interventions to improve engagement and retention in treatment.

While treatment was found to reduce crime, clients involved with the criminal justice system did not report less involvement in predatory illegal acts after treatment than those who were not involved with the criminal justice system. The analyses described in this report may not fully identify the positive effects of criminal justice system involvement on criminal behavior. Longer retention in treatment, which was positively related to reduction in risk of predatory illegal acts and arrest, was controlled in the multivariate analyses. Thus, the indirect effect of criminal justice system involvement through increased retention was not estimated. More intensive continuing care services may be needed to maintain the reduction in substance abuse and crime achieved during treatment. An appropriate new role for criminal justice system initiatives might be the provision or coordination of long-term continuing care services to help reinforce the behavior changes achieved during substance abuse treatment.

In general, the analyses strongly indicate that it could be beneficial to further explore the interrelationship between the criminal justice system and substance abuse treatment. Treatment can improve the lives of substance abusers involved in the criminal justice system. The criminal justice system can identify and refer more substance abusers to treatment. It is critical that coordinated treatment provider, treatment policy, and research/evaluation efforts be directed to increasing the potential of the criminal justice/treatment nexus to achieve the dual goals of public safety and individual recovery.

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