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NATIONAL EVALUATION DATA SERVICES

**PHYSICALLY AND SEXUALLY ABUSED WOMEN IN
SUBSTANCE ABUSE TREATMENT:
TREATMENT SERVICES AND OUTCOMES**

February 2001

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FOREWORD

The Center for Substance Abuse Treatment (CSAT) works to improve the lives of those affected by alcohol and other substance abuse, and, through treatment, to reduce the ill effects of substance abuse on individuals, families, communities, and society at large. Thus, one important mission of CSAT is to expand the knowledge about and the availability of effective substance abuse treatment and recovery services. To aid in accomplishing that mission, CSAT continues to invest significant resources in the development and acquisition of high quality data about substance abuse treatment services, clients, and outcomes. Sound scientific analysis of this data provides evidence upon which to base answers to questions about what kinds of treatment are most effective for what groups of clients, and about which treatment approaches are cost-effective methods for curbing addiction and addiction-related behaviors.

In support of these efforts, the Program Evaluation Branch (PEB) of CSAT established the National Evaluation Data Services (NEDS) contract to provide a wide array of data management and scientific support services across various programmatic and evaluation activities and to mine existing data whose potential has not been fully explored. Essentially, NEDS is a pioneering effort for CSAT in that the Center previously had no mechanism established to pull together databases for broad analytic purposes or to house databases produced under a wide array of activities. One of the specific objectives of the NEDS project is to provide CSAT with a flexible analytic capability to use existing data to address policy-relevant questions about substance abuse treatment. This report has been produced in pursuit of that objective.

This report is one of three that were developed to examine the impact of sexual and physical abuse, either as a victim, perpetrator, or both, on substance abuse treatment outcomes. The other two companion reports are *The Effectiveness of Substance Abuse Treatment in Reducing Violent Behavior* (Orwin, Maranda, & Brady, 2001) and *The Impact of Prior Physical and Sexual Victimization on Substance Abuse Treatment Outcomes* (Orwin, Ellis, & Maranda, 2001).

This report presents the results of a secondary analysis of data from the National Treatment Improvement Evaluation Study (NTIES), which compares women who experienced repeated abuse (physical, sexual, or both) prior to treatment to women who experienced only a single instance of physical or sexual abuse. Characteristics of women with a history of repeated abuse and those with a single instance of abuse, treatment services they received, and their treatment outcomes are the focus of this report.

Sharon Bishop
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National Evaluation Data Services

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This report presents the results of a secondary analysis of data from the National Treatment Improvement Evaluation Study (NTIES). This analysis compares women who experienced a single instance of abuse prior to treatment to women who experienced repeated abuse (physical, sexual, or both).

1. INTRODUCTION

Histories of physical and sexual abuse are often reported by women participating in substance abuse treatment (Gil-Rivas, Fiorentine, Anglin, & Taylor, 1997). More than half of the women in substance abuse treatment have experienced physical and/or sexual abuse at some point in their lives, compared to about one-third of women in the general population (Kilpatrick, Edmunds, & Seymour, 1992; Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993; Teets, 1995; Windle, Windle, Scheidt, & Miller, 1995).

2. METHODS

This analysis compared the treatment outcomes of 892 women ages 18 and older who responded to intake questions about prior physical and sexual abuse in NTIES. Sexual abuse was defined as ever having been made to have vaginal, oral, or anal sex when they did not want to through the use of force or threats of harm to themselves or someone close to them. Physical abuse was defined as ever having been attacked with a weapon or ever having been hit so seriously they were badly bruised, had to see a doctor, or had to stay in bed for one day or more.

For this analysis, women who experienced a single instance of abuse were compared with those who experienced repeated (two or more) instances of physical abuse, sexual abuse or both. This is not meant to suggest that one instance of abuse is not traumatic or capable of producing long-term consequences, but to focus the analysis on the effects of repeated abuse. Repeated abuse is an important aspect of this analysis because many of the women in NTIES had been abused multiple times, and repeatedly abused women typically experience greater psychopathology, as well as binge drinking and heavy substance abuse, than women who have been abused once (Jasinski, Williams, & Siegel, 2000; Gil-Rivas et al., 1997). For this analysis, four subgroups of women in NTIES were compared:

- Single instance (physically or sexually abused once; n=164; 18%)
- Physical abuse (physically abused two or more times, but never or once sexually abused; n=325; 36%)
- Sexual abuse (sexually abused two or more times, but never or once physically abused; n=97; 11%)
- Both abuse (both physically and sexually abused two or more times; n=306; 34%).

Chi-square tests were used to assess the independence of the analysis groups on a variety of categorical measures, including pre-treatment demographic characteristics, treatment services received, and treatment outcomes. Logistic regression analyses were conducted to identify variables that predict post-treatment outcomes. Pre-treatment characteristics (i.e., age, education, race, marital status) and baseline behaviors (e.g., substance use)were controlled for in the logistic regression analyses.

3. RESULTS

At admission to treatment, the demographics of the women in the four groups were very similar, with no significant differences between the groups on average age, race/ethnicity, education, whether the women were raising children, and whether they were employed. Most of the women in each group had received prior treatment for drugs or alcohol. There were few significant differences among the groups in the substances for which the client entered treatment, with crack cocaine, alcohol, cocaine powder, heroin and marijuana most frequently cited as the substances for which clients sought treatment.

Clients received publically funded treatment services in one of four modalities (methadone, non-methadone outpatient, short-term residential, long-term residential). More than half of the women in each group received residential treatment (short-term and long-term combined). Fewer women in all groups received treatment in the methadone modality compared to the other modalities, which may reflect the relatively small proportion of women in treatment for heroin. Generally, more of the repeatedly abused women than women who experienced a single instance of abuse reported they had received the various treatment services, with some significant differences. For example, significantly more of the women in the both abuse group received abuse counseling, transportation assistance, parent training, and child care counseling than women in the single instance group.

Despite having experienced repeated abuse prior to treatment, outcomes were generally as positive for the repeatedly abused women as they were for women reporting a single instance of abuse. With some variation by specific measures, there were significant declines in all groups for alcohol and drug use, and for criminal behaviors, and significant improvements in employment and mental health outcomes. Physical health improved in the three repeated abuse groups, improving significantly for two of the groups. With few exceptions, the strongest predictors of post-treatment substance use, physical health, mental health, employment and criminal behavior outcomes were baseline levels of the measures, not abuse group.

4. IMPLICATIONS FOR RESEARCH, POLICY, AND PRACTICE

Of the 892 women in this sample, 81 percent reported they had experienced repeated abuse in their lifetime. This analysis supports other findings that a large percentage of women in substance abuse treatment have a history of having been abused at least once (Miller & Downs, 1993), with many women having been abused multiple times. Even with repeated abuse prior to treatment, outcomes were generally as positive for repeatedly abused women as they were for single instance of abuse women. These findings have implications for research, policy and treatment practice.

Due to the paucity of research on the influence of prior physical/sexual abuse on women in substance abuse treatment and the potential reluctance to report abuse due to fear and stigmatization, prospective studies that use larger samples and an increased depth of inquiry into abuse histories are needed to clarify our understanding of the relationship between physical/sexual abuse and substance abuse. Future studies might benefit by using the more field-standard measures of physical and sexual abuse. In the present analysis, for example, the use of more restrictive definitions of abuse may have resulted in an underestimation of physical and sexual abuse that can contribute to the problems of under-reporting that exist in many abuse studies.

Substance abuse treatment providers who treat women may need to deal with the effects of physical and sexual abuse, as well as the effects of substance abuse. This analysis suggests that it may be beneficial to expand our concept of best practices for treatment of abused women by including appropriately targeted services. Doing so may help to achieve substance abuse treatment outcomes that are as favorable for them as for women with no history of abuse. In the NTIES sample, for example, significantly more of the both repeatedly abused women than women reporting a single instance of abuse received abuse counseling, transportation assistance, parent training, and child care counseling. The greater use of these services among repeatedly

abused women may explain why treatment outcomes were as positive for them as they were for single instance of abuse women.

An important implication for treatment practice is that practitioners, as well as researchers and data collectors, could benefit from training in the assessment of physical and sexual abuse among women in substance abuse treatment. Clinicians, for example, need to be able to obtain an extensive physical/sexual abuse history during the intake process, and they need to be aware of how difficult it is for women to disclose past abuse. Another practice implication from this analysis is that treatment providers may need to incorporate treatment activities that specifically address past physical/sexual abuse issues. This may include special groups geared toward substance abusers who have also experienced physical and/or sexual abuse, and treatment plans that include abuse counseling as well as other services that deal with both substance abuse and physical/sexual abuse.

I. INTRODUCTION

I. INTRODUCTION

Histories of physical and sexual abuse are often reported by women participating in substance abuse treatment at rates that are higher than for women in the general population (Gil-Rivas, Fiorentine, Anglin, & Taylor, 1997). More than half the women in substance abuse treatment have experienced physical and/or sexual abuse at some point in their lives, compared to about one-third of women in the general population (Kilpatrick, Edmunds, & Seymour, 1992; Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993; Teets, 1995; Windle, Windle, Scheidt, & Miller, 1995). Among women receiving treatment for substance abuse, abused women are significantly more likely than non-abused women to experience depression, anxiety, phobias, and interpersonal difficulties (Miller, Downs, & Testa, 1995).

This report presents the results of a secondary analysis of data from the National Treatment Improvement Evaluation Study (NTIES), funded by the Center for Substance Abuse Treatment (CSAT). Data from NTIES clients were analyzed to compare women who experienced repeated abuse (physical, sexual, or both) prior to treatment to women who experienced a single instance of physical or sexual abuse. Characteristics of women with a history of repeated abuse and those with a single instance of abuse, treatment services they received, and their treatment outcomes are the focus of this report.

This is one of three companion reports that examines the relationship between substance abuse and physical/sexual abuse. A report entitled *The Effect of Substance Abuse Treatment in Reducing Violent Behavior* (Orwin, Maranda, & Brady, 2001) specifically examines violent behavior and the extent to which substance abuse treatment reduces violence. Changes in violent behaviors are discussed by gender, treatment modality, and whether the client was a victim of violence in addition to being a perpetrator. A second report entitled, *The Impact of Prior Physical and Sexual Victimization on Substance Abuse Treatment Outcomes* (Orwin, Ellis, & Maranda, 2001) addresses the influence of prior victimization on treatment outcomes, by gender and modality across the entire NTIES outcome sample (N=4,411).

This chapter presents a brief review of prior relevant research, an overview of NTIES, the purpose and parameters of the present analysis, and the organization of this report.

1. OVERVIEW OF RELEVANT RESEARCH

This section presents background information on the prevalence and aftermath of physical and sexual abuse and the prevalence of substance use among women, followed by the relevant research on the interaction between abuse histories and substance use.

1.1 Prevalence and Aftermath of Physical and Sexual Abuse Among Women

Sexual violence is the most rapidly growing violent crime in America (Dupre, Hampton, Morrison, & Meeks, 1993). At least 20 percent of women have experienced at least one incident of sexual abuse in their lifetime (Koss, 1988), with an abusive incident occurring every 45 seconds (American Medical Association, 2000). Although both women and men are victims of abuse, women are up to 7 times more likely to experience a sexually abusive incident (Tjaden & Thoennes, 1998). Women (22%) are also more likely than men (7%) to report a physically abusive incident (Tjaden & Thoennes, 1998).

When compared to other traumas, sexual and physical abuse have been found to be connected to the highest rate of posttraumatic stress disorder (PTSD) (Resnick et al., 1993). Kessler, Sonnega, Bromet, Hughes, and Nelson (1995) found that women with PTSD were twice as likely as women without PTSD to have alcohol abuse and/or dependence (28% versus 14%) and were 4 times more likely to have drug abuse and/or dependence (27% versus 8%). In addition to heightened substance abuse rates, physically and sexually abused women have significantly higher rates of other forms of psychiatric illness, including major depressive disorder, and eating disorders (Resnick et al., 1993; Society for Women's Health Research, 1997).

1.2 Prevalence of Substance Use Among Women

National studies indicate that women constitute one-third to one-half of the 10 million United States residents with substance abuse problems (National Household Survey on Drug Abuse, cited in National Institute on Drug Abuse, 1996; Society for Women's Health Research, 1997). Among women in treatment for substance use, almost all (96%) have used alcohol in their lifetime, 78 percent have used marijuana, and 51 percent have used cocaine (Westermeyer & Boedicker, 2000). Of these women, 72 percent were currently using alcohol, 27 percent were currently using marijuana, and 13 percent were currently using cocaine. Women who are substance abusers become intoxicated and addicted more quickly than men and develop related diseases at an earlier age (National Center on Addiction and Substance Abuse, cited in Department of Health and Human Services, 1999).

1.3 Interaction of Abuse History and Substance Use

Among women with a substance abuse problem, it has been estimated that up to 90 percent have been sexually abused at least once in their lifetime, and up to 50 percent have been

physically abused, often by a parent or guardian (Miller & Downs, 1993). Women who have an abuse history, compared to non-victims, are 3 times more likely to use marijuana, 6 times more likely to use cocaine, and 10 times more likely to use heroin, crack or other hard drugs (Kilpatrick et al., 1992).

Clients with past physical/sexual abuse who are in substance abuse treatment are often labeled by clinicians as “difficult” or “resistant” since they have more trouble gaining insight to achieve behavioral changes, and are thought to have a tendency to sabotage their recovery (Hall, 1996; Harvey, Rawson, & Obert, 1994; Root, 1989). Exposure to physical/sexual abuse may complicate the recovery process for substance abusing women (Gil-Rivas et al., 1997). Specific treatment for the consequences of sexual abuse and physical violence, including PTSD, is necessary for many women with substance abuse problems (Beckman, 1994). In addition to counseling, some women may need shelters or inpatient programs that offer safe havens from abusive partners and treatment that provides them with the confidence, understanding, and skills necessary to leave abusive relationships.

Although studies have documented a high incidence of physical and sexual abuse among women in treatment, the impact of these problems on outcomes in substance abuse treatment programs has not been fully explored (Cosden & Cortez-Ison, 1999). Little is known, for example, about the treatment services given to women with a history of repeated physical and sexual abuse compared to women reporting a single instance of abuse, or about the outcomes of those services. Findings from the present analysis may, therefore, be informative to the substance abuse treatment field.

2. OVERVIEW OF THE NATIONAL TREATMENT IMPROVEMENT EVALUATION STUDY (NTIES)

NTIES was conducted by the National Opinion Research Center (NORC) for the Center for Substance Abuse Treatment (CSAT) to evaluate the effectiveness of substance abuse treatment services. The NTIES project collected longitudinal data from purposive samples of substance abuse treatment clients drawn from service delivery units (SDUs) that received demonstration grant funding from CSAT. (CSAT defined an SDU as a single site offering a single level of care.) Data on substance use, mental health, physical health, employment status, and criminal behaviors were collected at intake, during treatment, and at follow-up. The appendix describes the NTIES design, including the outcome analysis sample. The appendix also provides a description of the participating SDUs, treatment modalities, and demonstration program types.

The NTIES data set has been a vital resource for exploring client subpopulation differences and treatment variation in the nation's public substance abuse treatment system. The value of NTIES to the present analysis is that it contains ample data to assess both physical and sexual abuse among abused women prior to entering substance abuse treatment, and to examine their demographic characteristics (e.g., age, race). The data from NTIES also support an analysis of other aspects of abuse history, such as the number of times a woman has been physically and/or sexually abused, whether the abuse occurred prior to the age of 18, and whether the abuser was a parent or guardian. Additionally, NTIES provides information regarding treatment services given to repeatedly abused women, compared to women reporting a single instance of abuse, and treatment outcomes for women with and without a repeated history of abuse.

3. PURPOSE AND PARAMETERS OF THE PRESENT ANALYSIS

Using data from the National Treatment Improvement Evaluation Study (NTIES), the present analysis was designed to examine the effectiveness of substance abuse treatment for women who experienced repeated abuse, compared to those who experienced a single instance of abuse. The present analysis extends prior NTIES analyses by examining the characteristics, treatment services, and outcomes of women reporting repeated abuse compared to those reporting a single instance of abuse. Four groups of women were examined:

- Single instance (physically or sexually abused once; n=164; 18%)
- Physically abused (physically abused two or more times, but never or once sexually abused; n=325; 36%)
- Sexually abused (sexually abused two or more times, but never or once physically abused; n=97; 11%)
- Both abused (both physically and sexually abused two or more times; n=306; 34%).

The specific analytic questions addressed were:

- What are the characteristics of women in treatment who have been repeatedly physically and/or sexually abused, compared to women reporting a single instance of abuse?
- What specific treatment services have repeatedly physically and/or sexually abused women received, compared to women reporting a single instance of abuse?

- Are the treatment outcomes different for women in NTIES reporting repeated physical and/or sexual abuse and women reporting a single instance of abuse?
- What are the predictors of outcomes for the four groups of women identified?

Chi-square tests were used to assess the independence of the analysis groups on a variety of categorical measures, including pre-treatment demographic characteristics, treatment services received, and treatment outcomes. Logistic regression analyses were then conducted to predict post-treatment behaviors on a number of outcome measures. Pre-treatment characteristics (i.e., age, education, race, marital status) and baseline behaviors were controlled for in the logistic regression analyses.

4. ORGANIZATION OF THE REPORT

The methods used in this analysis, including the composition of the subgroups, the analytic techniques used, and the treatment outcome measures are presented in Chapter II. The pre-treatment demographic characteristics of clients in the analytic groups, the treatment services desired and received, and the treatment outcomes for alcohol and drug use, physical and mental health, employment, and criminal behaviors are presented in Chapter III. Analytic findings are summarized in Chapter IV, and implications for further treatment research, policy and practice are discussed.

II. METHODS

II. METHODS

To address the four analytic questions presented in the previous section, we constructed four analysis groups based on women who reported a history of physical and sexual abuse when they entered treatment in NTIES.

1. ANALYSIS SUBGROUPS

Of the 4,411 clients in the National Treatment Improvement Evaluation Study (NTIES), 1,374 were women. Clients who were incarcerated (i.e., in the correctional modality) were not included in this analysis because they did not have the same opportunity to use substances as clients in the other four modalities (i.e., methadone, non-methadone outpatient, short-term residential, long-term residential). After excluding women in the correctional modality, the sample size dropped to 1,225, which included women for whom both pre-treatment intake and post-treatment follow-up data were available. Of these, a total of 892 were women aged 18 or older who responded affirmatively to questions about prior physical and sexual abuse when they entered treatment.

In NTIES, sexual abuse was defined as “ever having been made to have vaginal, oral, or anal sex when they did not want to through the use of force or threats of harm to themselves or someone close to them.” Physical abuse was defined as “ever having been attacked with a weapon such as a knife or a gun or ever having been hit so seriously that they were badly bruised, had to see a doctor, or had to stay in bed for one day or more.” Clients may have experienced physical and/or sexual abuse as children or as adults.

Women in NTIES who reported any abusive incidents were asked to respond to a series of questions about the abuse, including the number of times they were physically and/or sexually abused (in a range from “never” to “more than 100 times”), whether or not they were abused before the age of 18, and whether or not the abuser was a parent or guardian. The majority of women who reported physical abuse (74%) and who reported sexual abuse (73%) indicated that the abuse occurred at or after the age of 18. For most of the abused women, the abuser was someone other than a parent or guardian (physically abused women 85%; sexually abused women 93%).

The definitions of physical and sexual abuse used in this analysis are derived from NTIES questionnaire items. As such, they are more restrictive than terms used in other assessments of violence against women. The National Violence Against Women Survey (Tjaden & Thoennes, 1998), for example, considers behaviors such as pushing, pulling hair, slapping, kicking,

choking, and hitting with objects as physical assaults, as well as having been threatened or attacked with a knife or gun, or beaten up. The more restrictive definitions of physical and sexual abuse used in NTIES may mean that there was underreporting of abuse among women in NTIES, compared to other assessments of violence against women.

For this analysis, women who experienced a single instance of abuse were compared to women who experienced repeated (two or more) instances of physical and/or sexual abuse. This comparison is not meant to suggest that one instance of abuse is not traumatic or capable of producing long-term consequences. Repeated abuse is an important aspect of this analysis because many of the women in NTIES had been abused multiple times, and repeatedly abused women typically experience greater psychopathology, as well as binge drinking and heavy substance abuse, than women abused once (Jasinski, Williams, & Siegel, 2000; Gil-Rivas et al., 1997). Other research supports the finding that women who have been abused repeatedly are more likely to have substance abuse and mental health problems, including depression and a history of significantly more suicide attempts than single incident victims (Ellis, Atkeson, & Calhoun, 1982; Ruch, Amedeo, Leon, & Gartrell, 1991). For this analysis, four subgroups of women in NTIES were compared:

- Single instance (physically or sexually abused once; n=164; 18%)
- Physical abuse (physically abused two or more times, but never or once sexually abused; n=325; 36%)
- Sexual abuse (sexually abused two or more times, but never or once physically abused; n=97; 11%)
- Both abuse (both physically and sexually abused two or more times; n=306; 34%).

For some discussions, the single instance group is compared to repeated abuse groups, which includes the sexual abuse, physical abuse and both abuse groups.

2. ANALYSIS OVERVIEW

Chi-square tests were used to assess the independence of the analysis groups on a variety of categorical measures, including pre-treatment demographic characteristics, treatment services received, and treatment outcomes. To compare changes in behavior over time, paired samples t-tests were used. This measure is useful for detecting changes in responses due to experimental intervention in “before and after” research designs, and for variables that are dichotomous and

not continuous. A significance value less than .05 was the criterion for statistical significance throughout the analysis.

Logistic regression was used to assess the effects of treatment (pre- to post-treatment change), group membership (single instance, physical abuse, sexual abuse, and both abuse), and the interaction of treatment and group membership. This type of analysis describes the relationship between a dichotomous outcome variable and a set of explanatory variables. The explanatory variables may be continuous or discrete. Odds ratios were calculated based on logistic regression analyses that controlled for demographic information (age, race/ethnicity, education, and marital status) and baseline levels of behavior in the pre-treatment reference period.

3. OUTCOME MEASURES

At the time of admission to treatment and at follow-up, information was collected through client interviews on recent behavior in six areas: alcohol use, drug use, physical health, mental health, employment, and criminal behaviors. Follow-up interviews were conducted approximately one year after treatment completion. All outcome measures were client self-report. Outcome variables, such as alcohol use, were coded into dichotomous categories for analytic purposes (e.g., “0” representing no alcohol use in the past 30 days and “1” representing any alcohol use in the past 30 days). The post-treatment (follow-up) outcome measures included in this analysis were:

- Alcohol use (any alcohol use in the past 30 days)
- Drug use (any drug use in the past 30 days):
 - Marijuana
 - Crack cocaine
 - Cocaine powder
 - Heroin
- Physical health (reporting poor or fair physical health, compared to good or excellent physical health, during the 12-month reference period)
- Mental health (during the 12-month reference period):
 - Troubled or bothered by mental health
 - Any suicide attempts during the 12-month reference period

- Symptoms of anxiety (e.g., feeling frightened or nervous in situations when others would not)
- Symptoms of depression (e.g., feeling sad or depressed for two weeks or longer)
- Mental health stay (e.g., overnight stay in facility due to mental health problems)

- Employment (employed at time of follow-up interview)

- Criminal behaviors (during the 12-month reference period):
 - Shoplifted
 - Attacked or threatened someone with a weapon
 - Beat someone up
 - Severely hurt someone on purpose in any other way
 - Had sex for money or drugs (sex exchange behavior)
 - Had been arrested and booked or taken into custody.

The next chapter describes client characteristics of the subgroups, the treatment services desired and received, and the treatment outcomes.

III. RESULTS

III. RESULTS

The characteristics of the clients at admission, the services they received during treatment, and their treatment outcomes are presented in this chapter for the women in the four analysis groups (i.e., single instance of abuse, physically abused, sexually abused, and both abused).

1. CLIENT CHARACTERISTICS AT ADMISSION

The analysis of client characteristics at admission to treatment included demographic characteristics of the clients, whether they had received prior substance abuse treatment, and the substance(s) for which they sought treatment when they entered treatment in NTIES.

1.1 Demographic Characteristics at Admission

Demographic characteristics at admission included age, race/ethnicity, education, marital status, parenting status and employment status. The characteristics of the women in each group and of the total sample are displayed in Exhibit III-1. The total sample included 892 women ages 18 and older, with an average age of 33. Minority women comprised the large majority (82%) of the sample (69% Black, 11% Hispanic, and 2% of “other” race/ethnicity), and 18 percent of the women were white. About half of the women (48%) had a high school diploma or GED. A small proportion (22%) of the women were married when they entered treatment. More than one-third (37%) of the women reported they were raising children. Few of the women (10%) were employed at the time they were admitted to treatment.

The demographic profiles of women in the four analysis groups closely mirrored the total sample, indicating minimal differences between the analysis groups at admission to treatment. Significant group differences were found only for marital status at intake with significantly more of the women in the physically abused group (25%) and the both abused group (26%) reporting they were married than the women in the single instance of abuse group (17%) and in the sexual abuse group (11%). There were no significant differences between women who had been repeatedly abused and those who had experienced a single instance of abuse on any of the other demographic characteristics, including average age, race/ethnicity, education, whether they were raising children, or whether they were employed at intake.

EXHIBIT III-1					
DEMOGRAPHIC CHARACTERISTICS BY GROUP AT ADMISSION					
(N=892)					
	Single Instance (n=164)	Physical Abuse (n=325)	Sexual Abuse (n=97)	Both Abuse (n=306)	Total Sample (N=892)
Average Age	32	34	31	32	33
Race/Ethnicity					
Black	68%	66%	70%	66%	69%
White	14%	18%	16%	21%	18%
Hispanic	17%	12%	12%	11%	11%
Other	<1%	4%	2%	3%	2%
H.S. Diploma/GED	51%	45%	49%	49%	48%
Married	17%	25%*	11%	26%*	22%
Raising Children	37%	37%	36%	37%	37%
Employed	11%	11%	11%	9%	10%

* $p < .05$, ** $p < .005$

1.2 Prior Substance Abuse Treatment

Clients were asked at admission if they had ever received any kind of professional treatment or help for alcohol problems (not including Alcoholics Anonymous or Al-Anon) and if they had ever received any kind of professional treatment or help for other drug problems (not including Narcotics Anonymous or Cocaine Anonymous). The percentage of clients who had received no prior treatment for alcohol or drugs, and clients who had received prior treatment for drugs only, for both drugs and alcohol, or for alcohol only are presented in Exhibit III-2.

The proportion of women in the four groups who had not received prior treatment for drugs or alcohol use ranged from 29 percent (physical abuse) to 42 percent for the single instance group. Stated differently, most of the women in each group had received prior treatment for drugs or alcohol. While more of the women in the single instance group (42%) than in the repeated abuse groups had not received prior drug or alcohol treatment, the differences were significant only for the physical abuse group (29%) and the both abuse group (32%).

Among women who had received prior treatment for drugs only, significantly more of the women in the single instance group (37%) than in the both abuse group (24%) had received prior drug treatment. Significantly more of the women in all of the repeated abuse groups (physical, 28%; sexual, 25%; and both, 35%) had received prior treatment for both drugs and alcohol than

women who had experienced a single instance of abuse (18%). Few women in each group had received prior treatment for alcohol only and group differences were not significant.

For three groups, the largest proportion of those who had received prior treatment were treated for drugs only (single instance, 37%; physical abuse, 35%; sexual abuse, 30%). In the both abuse group, most of the women who had received prior treatment were treated for both drugs and alcohol (35%).

EXHIBIT III-2				
PERCENT OF CLIENTS REPORTING PRIOR SUBSTANCE ABUSE TREATMENT				
BY GROUP				
(N=892)				
Type of Prior Treatment (Number of Clients)	Single Instance (n=164) %	Physical Abuse (n=325) %	Sexual Abuse (n=97) %	Both Abuse (n=306) %
No Prior Drug or Alcohol Treatment (n=294)	42	29**	37	32**
Drug Only (n=276)	37	35	30	24**
Both Drug and Alcohol (n=252)	18	28**	25*	35**
Alcohol Only (n=67)	4	8	8	9

* $p < .05$, ** $p < .005$

1.3 Substance(s) for Which Treatment Was Sought

Clients were asked at the time of admission, “What is the drug or drug combination that made you come into treatment at this time?” Exhibit III-3 displays the substances for which clients most often sought treatment. Clients could report more than one substance.

The pattern of substances for which clients sought treatment was similar across groups. For all groups, crack cocaine and alcohol were the most frequently cited substances for which clients sought treatment, followed by cocaine (powder), heroin, and marijuana. For each of these substances, the range of use across the four groups was:

- Crack cocaine—44 to 50 percent
- Alcohol—35 to 50 percent
- Cocaine powder—28 to 34 percent
- Heroin—12 to 27 percent.

Marijuana was infrequently cited as the substance for which clients sought treatment (ranging from 6% to 11% across groups).

There were few significant differences among the groups in terms of the substances for which clients sought treatment. Compared to the single instance group (35%) and sexual abuse group (36%), a significantly higher proportion of women in the physical abuse group (42%) and the both abuse group (50%) sought treatment for alcohol. Significantly more of the women in the single instance group (27%) sought treatment for heroin than those in the sexual abuse group (12%) and both abuse group (12%). All other group differences were not significant.

EXHIBIT III-3				
PERCENT OF CLIENTS REPORTING SUBSTANCES FOR WHICH TREATMENT WAS SOUGHT ¹				
(N=892)				
Substance (Number of Responses)	Single Instance (n=164) %	Physical Abuse (n=325) %	Sexual Abuse (n=97) %	Both Abuse (n=306) %
Crack Cocaine (n=427)	49	44	55	50
Alcohol (n=382)	35	42*	36	50**
Cocaine Powder (n=279)	28	32	34	31
Heroin (n=166)	27	20	12**	12**
Marijuana (n=78)	9	6	11	11

¹ Drugs, such as inhalants, uppers, and PCP, were not reported because of their low prevalence rates (5% or less). Clients could report more than one drug. Therefore, percentages do not sum to 100.

* $p < .05$, ** $p < .005$

2. SERVICES RECEIVED

This section describes the modalities of treatment, the importance of specific treatment services to the clients, and the treatment services received. Treatment services desired at intake (i.e., rated by the clients as “very important”) are compared to treatment services the client received during treatment, followed by a discussion of the reasons clients stopped treatment.

2.1 Treatment Modalities

The women in this analysis were treated in one of four modalities: methadone, non-methadone outpatient, short-term residential, and long-term residential. Exhibit III-4 displays the percentage of women in each modality by group. Across all four groups, fewer women received treatment in the methadone modality (4% to 13%) than in the other modalities. Methadone treatment is used for opiate (e.g., heroin) addiction; therefore, the small proportions of women in the methadone modality may reflect the relatively smaller proportion of women who sought treatment for heroin use than those who sought treatment for other substances.

More than half of the women in each group (from 52% to 65%) received residential treatment (either short-term or long-term), with more of the clients receiving long-term (31% to 40%) than short-term (20% to 27%) treatment. More of the repeated abuse (36% to 37%) than single instance of abuse (22%) women received treatment in the non-methadone outpatient modality. Within the groups, the largest proportion of women in the physical abuse group (36%) received treatment in the non-methadone outpatient modality, while the largest proportion of women in the other three groups (38% to 40%) received treatment in the long-term residential modality.

EXHIBIT III-4				
PERCENT OF CLIENTS IN EACH MODALITY BY GROUP (N=892)				
Modality (Number of Clients)	Single Instance (n=164) %	Physical Abuse (n=325) %	Sexual Abuse (n=97) %	Both Abuse (n=306) %
Methadone (n=77)	13	12	5	4
Non-methadone Outpatient (n=300)	22	36	36	37
Short-term Residential (n=193)	27	21	21	20
Long-term Residential (n=322)	38	31	38	40

2.2 Importance of Treatment Services

At the time of admission, clients were asked to indicate how important (e.g., “very important,” “somewhat important,” or “not at all important”) specific services were to them. Based on a list, clients rated the importance of 10 services: drug treatment, housing assistance, family counseling, child care counseling, alcohol treatment, social problems counseling, employment counseling, financial counseling, mental health treatment, and medical treatment. Exhibit III-5 displays the percent of clients by group who rated each of these treatment services as “very important.”

EXHIBIT III-5				
PERCENT OF CLIENTS RATING TREATMENT SERVICES				
AS “VERY IMPORTANT” BY GROUP AT ADMISSION ¹				
(N=892)				
Treatment Service (Number of Responses)	Single Instance (n=164) %	Physical Abuse (n=325) %	Sexual Abuse (n=97) %	Both Abuse (n=306) %
Drug Treatment (n=770)	88	86	86	86
Housing Assistance (n=565)	60	60	69	67
Family Counseling (n=527)	49	59	61	64**
Child Care Counseling (n=436)	35	46*	57**	57**
Alcohol Treatment (n=432)	35	49**	41	58**
Social Problems/Life Skills Counseling (n=329)	33	37	41	38
Employment/Job Skills Counseling (n=308)	41	36	29	32*
Financial Counseling (n=237)	34	29	17**	23*
Mental Health Services (n=224)	35	27	19**	20**
Medical Services (n=188)	32	21*	19*	17**

¹ Clients could rate more than one service as very important, therefore percentages do not add to 100.

* $p < .05$, ** $p < .005$

With few variations, ratings of the four groups were in essentially the same order. For all groups of women, the large majority (86% to 88%) rated drug treatment as “very important.” Other services among the five most frequently rated as “very important” were housing assistance (60% to 69%), family counseling (49% to 64%), child care counseling (35% to 57%), and alcohol treatment (35% to 58%).

There were significant differences between the single instance group and one or more of the repeated abuse groups for 7 of the 10 rated services. Compared to the single instance group, significantly *more* of the women in one or more of the repeated abuse groups rated the following three services as “very important”:

- **Family counseling** (single instance 49%; both abuse 64%)
- **Child care counseling** (single instance 35%; physical abuse 46%; sexual abuse 57%; both abuse 57%)
- **Alcohol treatment** (single instance 35%; physical abuse 49%; both abuse 58%).

Compared to the single instance group, significantly *fewer* of the repeatedly abused women (physically, sexually, or both) rated the following four services as “very important” at treatment admission:

- **Employment counseling** (single instance 41%; both abuse 32%)
- **Financial counseling** (single instance 34%; sexual abuse 17%; both abuse 23%)
- **Mental health services** (single instance 35%; sexual abuse 19%; both abuse 20%)
- **Medical services** (single instance 32%; physical abuse 21%; sexual abuse 19%; both abuse 17%).

There were no significant differences between the single instance group and the repeated abuse groups of women on two of the services most frequently rated as “very important,” drug treatment services and housing assistance. The groups also did not differ significantly in rating the importance of social problems/life skills counseling.

While some of the significant findings seem fairly straightforward, others are more difficult to explain. For example, it is understandable that while the proportion of women raising children was nearly identical across groups, significantly more of the repeatedly abused women

in all groups than those who experienced a single instance of abuse rated child care counseling as “very important.” Similarly, significantly more of the women in the both abuse group than the single instance group rated family counseling as “very important.” These findings may reflect an awareness among repeatedly abused women that they need to develop parenting and family skills, in part to help them and their children cope with the problems associated with substance abuse, and possibly to help their children who may have been exposed to domestic violence.

Other findings are somewhat perplexing. For example, the finding that women who had experienced repeated sexual abuse, physical abuse or both, significantly *less* often rated medical services as “very important” than women who had experienced a single instance of abuse is not easily explained. Similarly, while the employment rates among all groups were low (from 9% to 11%) at intake, less than half of the women (ranging from 29 to 41%) rated employment/job skills counseling as “very important.”

2.3 Treatment Services Received

Treatment services that clients received are described in this section. At treatment exit, clients were asked what services they had received from a list of 16 services, including some ancillary services clients had not been asked to rate at intake (such as transportation assistance or assertiveness training). All services received (both significant and non-significant) are presented by group in Exhibit III-6. There were no significant differences between the four groups on having received 11 treatment services, including drug/alcohol treatment, medical services, assertiveness training, family problems assistance, mental health services, housing assistance, assistance collecting government payments, family planning, life skills training, employment/job skills assistance and legal services.

EXHIBIT III-6				
PERCENT OF CLIENTS REPORTING TREATMENT SERVICES RECEIVED BY GROUP¹				
(N=892)				
Treatment Service (Number of Responses)	Single Instance (n=164) %	Physical Abuse (n=325) %	Sexual Abuse (n=97) %	Both Abuse (n=306) %
Drug or Alcohol (n=379)	42	39	37	48
Medical Services (two or more days) (n=491)	57	52	59	56
Transportation Assistance (n=385)	36	42	38	50**
Assertiveness Training (n=377)	39	40	38	48
Family Problems Assistance (n=252)	29	26	35	29
Mental Health Services (n=208)	19	22	25	27
Parent Training (n=201)	14	25**	19	26**
Housing Assistance (n=189)	23	18	26	22
Assistance Collecting Government Payments (n=159)	21	15	18	19
Family Planning (n=152)	21	15	22	18
Social Problems/Life Skills Training (n=154)	17	16	22	18
Abuse Counseling (n=129)	11	12	10	20*
Attended School (n=101)	13	7*	21	12
Employment/Job Skills Assistance (n=83)	10	8	8	11
Child Care Counseling (n=57)	4	6	9	10*
Legal Services (n=28)	4	2	4	4

¹ Clients could receive more than one service; therefore, percentages do not add to 100.

* p < .05, ** p < .005

Generally, although not statistically significant, more of the repeatedly abused women than women who experienced a single instance of abuse reported they had received the treatment services available. There were significant differences between the single instance group and one

or more of the repeated abuse groups for 5 of the 16 services. Compared to the single instance group, significantly *more* of the women in the specified repeated abuse groups received the following services:

- **Transportation assistance** (single instance 36%; both abuse 50%)
- **Parent training** (single instance 14%; physical abuse 25%; both abuse 26%)
- **Abuse counseling** (single instance 11%; both abuse 20%)
- **Child care counseling** (single instance 4%; both abuse 10%).

Conversely, significantly more of the women who had experienced a single instance of abuse (13%) than physically abused women (7%) reported they had attended school during treatment.

2.4 Treatment Services Desired and Received

In this section, clients who indicated a desire for treatment services at intake are compared to clients who reported at treatment exit that they had received treatment services. Desire for services was defined as having rated treatment services as “very important.” (Data are presented Exhibit III-5 in an earlier section of this chapter). This analysis is primarily descriptive because of several limiting factors. First, clients who reported receiving services at treatment exit were not necessarily the same as those who said they desired the services at intake. Second, there were differences in the list of services clients were asked to rate at intake (10 items) and the list of services they were asked about at treatment exit (16 items), and there were some wording changes in post-treatment items. Third, not all of the treatment services the clients desired were available in all treatment modalities; therefore, certain comparisons could not be made. Finally, since all intake clients did not complete the exit questionnaire, and those who did may not have responded to each item, missing data may have reduced responses to some questions more than others. The pattern of responses, however, may still be informative.

Overall, clients in all groups who responded to questions at treatment exit said they had received all of the treatment services they were asked about, with sometimes large difference in percentages by service. Among services for which data were available on both the desire for and the receipt of services, there was a fairly consistent pattern. With few exceptions, a larger percentage of women in each of the four groups desired services at intake than reported having received them at treatment exit. This was true for the following services:

- **Drug or alcohol treatment.** From 86 to 88 percent of women across groups desired drug treatment, and from 35 to 58 percent desired alcohol treatment at admission. Drug and alcohol services were combined in the exit interview question, where 37 percent to 42 percent of women across groups reported they had received drug or alcohol treatment services.
- **Housing assistance.** From 60 percent (single instance group and physical abuse group) to 69 percent (sexual abuse group) of women desired housing assistance at admission, compared to 18 percent (physical abuse group) to 26 percent (sexual abuse group) of women who reported they had received housing assistance.
- **Family counseling.** From 49 percent (single instance group) to 64 percent (both abuse group) of women desired family counseling, compared to 26 percent (physical abuse group) to 35 percent (sexual abuse group) of women who reported they had received family counseling.
- **Child care counseling.** From 35 percent (single instance group) to 57 percent (sexual abuse group and both abuse group) of women desired child care counseling, compared to 4 percent (single instance group) to 10 percent (both abuse group) of women who reported they had received child care counseling.
- **Social problems/Life skills counseling.** From 33 percent (single instance group) to 41 percent (sexual abuse group) of women desired social problems counseling, compared to 16 percent (physical abuse group) to 22 percent (sexual abuse group) of women who reported they had received social problems counseling.
- **Employment/Job skills counseling.** From 29 percent (sexual abuse group) to 41 percent (single instance group) of women desired employment/job skills counseling, compared to 8 percent (physical abuse group and sexual abuse group) to 11 percent (both abuse group) of women who reported they had received employment/job skills counseling.

While the overall pattern for mental health services desired and received appears similar to that of other services, there were differences by group. From 19 percent (sexual abuse group) to 35 percent (single instance group) of women desired mental health counseling, compared to 19 percent (single instance group) to 27 percent (both abused group) of women who reported they had received mental health counseling. In this case, however, a larger proportion of the sexual abuse group (25%) and the both abuse group (27%) received mental health services than had desired them at intake (sexual abuse group 19%; both abuse group 20%).

There was one notable exception to the general pattern. Across all groups, the proportion of women who reported they had received medical services (ranging from 52% to 59%) was

higher than the proportion of women who desired medical services at intake (ranging from 17% to 32%). One possible explanation is that, in the judgment of treatment staff, more clients needed medical services than the clients themselves perceived.

A second, and notable, pattern of results was that for most of the services received, more of the repeated abuse groups of women, especially those who reported both physical and sexual abuse, received treatment services than did women in the single instance group. This finding suggests that women with a history of repeated abuse may present with more associated problems, not measured here, that garner more services.

Since all of the women were in substance abuse treatment, the proportion of women who reported they had received drug/alcohol services appears relatively low (from 37% to 48%), and may reflect a lack of clarity in client perceptions about which services were specifically substance abuse related. The finding (based on those clients who responded to items on the exit questionnaire) that all groups reported they had received all of the services is suggestive that clients may have received all services that were available whether or not clients perceived a need for those services at intake. Alternatively, this finding may be affected by variations in response rates to different items on the exit questionnaire due to fewer clients completing the questionnaire and to missing data on some items.

2.5 Clients' Primary Reason for Stopping Treatment

At treatment exit, clients were asked for their primary "reason for stopping treatment at this time." Exhibit III-7 displays the primary reasons the women gave for stopping treatment. Analysis of the reasons that client left treatment was limited by the small number of responses to this item at treatment exit.

Across groups, 25 to 31 percent of the women reported they had stopped treatment because they had completed their treatment plan. An additional 26 to 30 percent of women reported they had stopped treatment because of "other" reasons which were not further specified. No reason was given for an additional 13 to 20 percent of women in the four groups. This means that for most of the women who responded to this item, the reasons for leaving treatment were not specified among the categories provided. Differences between groups were not significant.

Of the reasons that were specified for stopping treatment, other than completing the treatment plan, a number of reasons were infrequently cited (11% or less across the groups). Few women in any of the groups indicated that they had stopped treatment because they had:

- Been kicked out of the program by staff
- Experienced logistical problems
- Decided treatment was not successful
- Not wanted to enter treatment in the first place
- Transferred to another program.

Similarly, few of the women in each group indicated they left treatment because they could not afford it. Other reasons for leaving treatment, such as changes in eligibility, incarceration, pressure from family and friends, and having left the area are not presented in the table because the frequency of those reasons was very low (2% or less).

EXHIBIT III-7				
PERCENT OF CLIENTS REPORTING PRIMARY				
REASON FOR STOPPING TREATMENT ¹				
(N=892)				
Reason (Number of Clients)	Single Instance (n=164) %	Physical Abuse (n=325) %	Sexual Abuse (n=97) %	Both Abuse (n=306) %
Completed Treatment Plan (n=187)	31	27	25	29
Other Reason (n=185)	27	26	29	30
No Reason Given (n=108)	20	17	17	13
Kicked Out of Program by Staff/Involuntary (n=59)	8	8	11	10
Logistical Problems (n=31)	5	6	5	4
Treatment Not Successful/Still Using Drugs (n=31)	3	5	2	6
Did Not Want to Be There in the First Place (n=17)	3	2	3	3
Transferred to Another Program (n=15)	<1	3	2	2
Couldn't Afford It (n=8)	0	2	3	<1

¹ Low frequency responses (2% or less) were not included. Due to these exclusions and missing data, the sample sizes do not sum to 892 and the percentages do not sum to 100.

3. TREATMENT OUTCOMES

Treatment outcomes for women in the four groups (single instance, physical abuse sexually abused, and both abuse) are presented in this section. In this analysis, pre- to post-treatment changes were assessed for alcohol and drug use, physical and mental health, employment, and criminal behavior. A logistic regression modeling technique was used to identify the best predictors of treatment outcomes. The regression model controlled for baseline levels of the outcome measures, age, race/ethnicity, education and marital status, and held the single instance group (i.e., the reference group) constant to compare its treatment outcomes to those of the repeated abuse groups. For each treatment outcome, pre- to post-treatment changes are presented first, followed by results from the logistic regression analysis.

3.1 Alcohol and Drug Use

Clients were asked whether they had used any alcohol or drugs in the 30 days before treatment and in the 30 days prior to the follow-up interview, which occurred about one year after treatment. Exhibit III-8 displays the pre- and post-treatment levels of substance use for the most frequently reported substances: alcohol, marijuana, crack cocaine, cocaine powder, and heroin. Of these, alcohol and crack cocaine were the most frequently reported substances for all groups at intake.

EXHIBIT III-8								
PERCENT CHANGES IN ALCOHOL AND DRUG USE								
FROM PRE- TO POST-TREATMENT BY GROUP ¹								
(N=892)								
Substance	Single Instance (n=164)		Physical abuse (n=325)		Sexual Abuse (n=97)		Both Abuse (n=306)	
	Pre %	Post %	Pre %	Post %	Pre %	Post %	Pre %	Post %
Alcohol	56	38**	58	42**	52	41	52	40**
Marijuana	23	12**	20	11**	21	12	24	14**
Crack Cocaine	43	16**	40	17**	38	18**	38	21**
Cocaine Powder	17	9	17	10**	14	8	13	8**
Heroin	23	13**	19	10**	9	7	8	4*

¹ Statistically significant admission/follow-up change based on Paired Samples t-test.

* $p < .05$, ** $p < .005$

Overall, post-treatment levels of drug use were similar for all abuse groups. Compared to the 30 days prior to treatment, substance use declined after treatment in all four groups for all five substances (i.e., alcohol, marijuana, crack cocaine, cocaine powder, and heroin). Declines were significant for all of the substances in the physical abuse and both abuse groups. In the single instance group, declines were significant for all substances except cocaine powder. Only crack cocaine use declined significantly in the sexual abuse group, which may be a result of the small sample size for the group.

The logistic regression analyses showed that the odds for alcohol and/or drug use in the post-treatment period for women who were repeatedly abused were no higher than for women reporting a single instance of abuse. The best predictors of post-treatment substance use were baseline levels of alcohol and drug use, ($p < .0001$), not abuse history.

3.2 Physical Health Outcomes

The physical health outcome measure was based on client reports of their health status; specifically, whether clients reported fair or poor health (rather than good or excellent physical health) before treatment and after treatment. In the single instance group, there was little change (from 30% to 31%) in the proportion of women who reported fair or poor health after treatment. Compared to when they entered treatment, there were declines after treatment in the proportion of women who rated their health as fair or poor in the three repeated abuse groups. Among women in the repeated abuse groups, those who reported fair or poor health declined:

- From 39 percent to 33 percent in the physical abuse group
- From 42 percent to 34 percent in the sexual abuse group
- From 49 percent to 35 percent in the both abuse group.

The declines were significant for the physical abuse group and both abused group, but not for the sexual abuse group, possibly due to the smaller sample size.

Controlling for demographic characteristics and baseline levels of physical health, the odds of reporting fair or poor physical health at post-treatment were no higher for women who were repeatedly abused than they were for women who experienced a single instance of abuse. The strongest predictors of physical health after treatment were baseline levels of physical health ($p < .0001$).

3.3 Mental Health Outcomes

For this analysis, mental health outcomes were measured by five items from the client intake and follow-up interviews: troubled by mental health, suicide attempts, symptoms of anxiety, symptoms of depression, and overnight stays in a mental health facility. Exhibit III-9 shows pre- to post-treatment levels of these mental health outcomes for the 12 months prior to treatment and the 12 months following treatment exit.

EXHIBIT III-9 PERCENT CHANGES IN MENTAL HEALTH MEASURES FROM PRE- TO POST-TREATMENT BY GROUP ¹ (N=892)								
	Single Instance (n=164)		Physical Abuse (n=325)		Sexual Abuse (n=97)		Both Abuse (n=306)	
	Pre %	Post %	Pre %	Post %	Pre %	Post %	Pre %	Post %
Troubled by Mental Health	23	8**	23	12**	23	11*	30	13**
Suicide Attempts	12	6*	12	7*	17	8*	19	8**
Symptoms of Anxiety	6	17**	10	18**	22	21	21	24
Symptoms of Depression	31	15**	36	27*	50	19**	52	24**
Overnight Stay in Mental Health Facility	6	5.5	7	5	11	8	13	7**

¹ Statistically significant admission/follow-up change based on Paired Samples t-test.

* $p < .05$, ** $p < .005$

At pre- and post-treatment, clients were asked, “How troubled or bothered are you by your emotions, nerves, or mental health?” using a scale of “not at all, somewhat, or very much.” Compared to when they entered treatment, significantly fewer women in all groups reported at post-treatment that they were “very much” troubled or bothered by their emotions, nerves, or mental health. Self-reported suicide attempts also declined significantly after treatment for all groups of women, with the largest decline among women who reported both repeated physical and sexual abuse.

Clients were asked at admission and follow-up if they had ever felt very suddenly frightened or nervous when they were not at the center of attention or in danger (in the past 12 months). They were further asked whether this fear would occur when most other people would

not have been very afraid or nervous. Except for the sexually abused women, more of the women in the remaining groups reported an increase in anxiety after treatment than before treatment. The increases were significant only for the physically abused and the single instance of abuse groups of women. The reasons that more women in these groups reported an increase in anxiety in comparison to women in the other groups are unclear.

As a measure of depression, clients were asked at pre-and post-treatment if they ever had a period of two weeks or longer when they felt either very sad or depressed in the past 12 months. Compared to the year before treatment, significantly fewer women in all groups reported feeling very sad or depressed (for two weeks or longer) in the year following treatment.

Clients were asked at pre- and post-treatment if they had stayed somewhere for at least 24 hours for professional treatment of problems with their emotions, nerves, or mental health in the past 12 months. Overnight stays for mental health concerns decreased among all four groups, although this decrease was significant only for women in the both abuse group.

Compared to the single instance group, the odds of reporting symptoms of depression at follow-up were 2.1 times higher for women who experienced repeated physical abuse ($p < .005$), and 1.8 times higher for women who experienced both repeated physical and sexual abuse. ($p < .05$). The strongest predictors of the other mental health outcomes (i.e., troubled by mental health, suicide attempts, symptoms of anxiety, and overnight stays in mental health facilities) were the baseline measures of mental health ($p < .0005$).

3.4 Employment Outcomes

At admission to treatment and at follow-up, clients were asked whether or not they were currently employed. Employment rates increased significantly for all four groups after treatment, rising:

- From 11 percent to 30 percent among women in the single instance group
- From 11 percent to 27 percent among women in the physical abuse group
- From 11 percent to 24 percent among women in the sexual abuse group
- From 9 percent to 32 percent among women in the both abuse group.

For the both abuse group only, the post-treatment level of employment was the same as the proportion of women who had rated employment/job skills counseling as very important (32%) at treatment intake.

When controlling for demographic characteristics and baseline levels of employment, the odds of unemployment after treatment were no higher for women in the repeated abuse groups than they were for women in the single instance group. Baseline levels of employment and whether or not a client had a high school diploma or GED, were the strongest predictors of post-treatment employment ($p < .0001$).

3.5 Criminal Behavior Outcomes

Six items from admission and follow-up client interviews were used as outcome measures for criminal behaviors. At intake, the women were asked about the behaviors in the year before treatment, and at follow-up they were asked about the behaviors during the time since they had left treatment (about one year after treatment). Exhibit III-10 displays the pre- to post-treatment differences in criminal behaviors among the four groups, including whether the client had:

- Taken something from a store without paying for it (i.e., shoplifted)
- Attacked or threatened someone with a weapon
- Beaten someone up
- Severely hurt someone on purpose in any other way
- Had sex for money or drugs (sex exchange behavior)
- Been arrested and booked or taken into custody.

There were significant reductions in all six criminal behaviors in all groups except for the sexual abuse group, where only four of the six behaviors declined significantly. The two behaviors that did not decline significantly in the sexual abuse group were attacking or threatening someone with a weapon, and severely hurting someone on purpose in any other way. This may be due to the small number of women in the group, and the low proportion of women who had reported those two behaviors at intake.

When controlling for demographic characteristics and baseline levels of the outcome measures, it was found that the odds of reporting four of the criminal behavior outcomes (shoplifting, beating someone up, sex exchange behavior, and arrests) at post-treatment were no higher for the repeatedly abused women than for the women who experienced a single instance of abuse. Baseline levels of each of the four behaviors were the strongest predictors of post-treatment levels of each behavior ($p < .0001$).

EXHIBIT III-10								
PERCENT CHANGES IN CRIMINAL BEHAVIORS								
FROM PRE- TO POST-TREATMENT BY GROUP ¹ (N=892)								
	Single Instance (n=164)		Physical Abuse (n=325)		Sexual Abuse (n=97)		Both Abuse (n=306)	
	Pre %	Post %	Pre %	Post %	Pre %	Post %	Pre %	Post %
Shoplifted	31	9**	28	8**	34	9**	35	13**
Attacked/Threatened Someone With a Weapon	9	2**	15	5**	10	4	20	9**
Beat Up Someone	17	3**	21	6**	22	7**	26	9**
Severely Hurt Someone on Purpose in Any Other Way	7	1*	10	2**	7	2	14	4**
Sex Exchange Behavior	35	11**	34	10**	54	17**	54	20**
Arrested and Booked or Taken into Custody	32	11**	34	11**	30	10**	39	11**

¹ Statistically significant admission/follow-up change based on Paired Samples t-test.

* $p < .05$, ** $p < .005$

Results of the logistic regression analysis for significant findings on the remaining two criminal outcomes are presented in Exhibit III-11. Because the single instance group is the reference group, data for the single instance group are not presented in the table.

EXHIBIT III-11			
ODDS RATIOS ON LOGISTIC REGRESSION ANALYSES BY GROUP,			
HOLDING SINGLE INSTANCE ABUSED WOMEN AS REFERENCE GROUP¹			
(N=892)			
	Physically Abused (n=325)	Sexually Abused (n=97)	Both Abused (n=306)
At Post-treatment:			
Attacked/threatened someone with a weapon	1.9	1.1	2.5**
Severely hurt someone	1.6	<1	2.3*

¹ To interpret results of odds ratios: a value greater than one indicates the factor is associated with a higher likelihood of clients displaying that behavior (e.g., criminal behaviors). Values less than one would represent factors not associated with those behaviors.

* $p < .05$, ** $p < .005$

Compared to women reporting a single instance of abuse, the odds of reporting they had attacked/threatened someone with a weapon at post-treatment were 2.5 times higher for women who experienced both repeated physical and sexual abuse ($p < .005$). Similarly, compared to the single instance of abuse women, the odds of severely hurting someone at post-treatment were 2.3 times higher for women who experienced both repeated physical and sexual abuse ($p < .05$).

IV. SUMMARY AND RECOMMENDATIONS

IV. SUMMARY AND RECOMMENDATIONS

In the final chapter of this report, we review the main findings from the analyses performed and discuss their implications for future research and for substance abuse treatment policy and practice.

1. SUMMARY

Overall, the findings indicate that treatment outcomes were generally as positive for women who had experienced repeated abuse prior to treatment as for women who had experienced a single instance of abuse. The findings indicated, with few exceptions, that pre-treatment behaviors were more strongly associated with post-treatment behaviors and outcomes than was abuse history. The findings for each analysis question are summarized below.

1.1 Client Characteristics and Demographics

At admission to treatment, the demographics of the women in the four groups were very similar, with no significant differences between the groups on average age, race/ethnicity, education, whether the women were raising children, and whether they were employed. Only marital status differed significantly between repeatedly abused and single instance of abuse women at intake. Most of the women in each group had received prior treatment for drugs or alcohol, with significantly more of the repeatedly abused women reporting they had received treatment in the past than women who had experienced a single instance of abuse. There were few significant differences among the groups in the substances for which the client entered treatment, with crack cocaine, alcohol, cocaine powder, heroin and marijuana most frequently cited as the substances for which clients sought treatment.

1.2 Services Received

Clients received publically funded treatment services in one of four modalities (methadone, non-methadone outpatient, short-term residential, long-term residential). More than half the women in each group received residential treatment (short-term and long-term combined). Fewer women in all groups received treatment in the methadone modality compared to the other modalities, which may reflect the relatively small proportion of women in treatment for heroin. Generally, more of the repeatedly abused women than women who experienced a single instance of abuse reported they had received the various treatment services, with some significant differences. For example, significantly more of the women in the both abuse group

received abuse counseling, transportation assistance, parent training, and child care counseling than women in the single instance group.

1.3 Treatment Outcomes

Despite having experienced repeated abuse prior to treatment, outcomes were generally as positive for the repeatedly abused women as they were for women reporting a single instance of abuse. In general, the rates of alcohol and drug use at follow-up were the same for the repeatedly abused women as they were for the single instance of abuse women. With some variation by specific measures, there were significant declines in all groups for alcohol and drug use, and for criminal behaviors, and significant improvements in employment and mental health outcomes. Physical health improved in the three repeated abuse groups, improving significantly for two of the groups.

Across groups, the most striking pattern of changes was among women who experienced repeated instances of both physical and sexual abuse. For these women, there were significant post-treatment declines in substance use for all substances, and significant declines in such mental health measures as suicide attempts, depression, and overnight stays in a mental health facility. All criminal behaviors declined significantly in this group. Further, health status improved significantly among these women, and there was a significant increase in post-treatment employment. Overall, these results imply that with appropriately targeted services (e.g., abuse counseling, parent training, child care counseling) substance abuse treatment in NTIES was as effective for women reporting a history of repeated abuse as it was for women reporting a single instance of abuse.

1.4 Predictors of Treatment Outcomes

With few exceptions, the strongest predictors of post-treatment substance use, physical health, mental health, employment and criminal behavior outcomes were baseline levels of the measures, not the abuse group.

2. IMPLICATIONS FOR RESEARCH, POLICY, AND PRACTICE

This section describes avenues for future research in this area, including limitations of the current analysis, as well as its policy and treatment implications.

2.1 Implications for Further Research

Due to the paucity of research on the influence of prior physical/sexual abuse on women in substance abuse treatment, prospective studies that use larger samples and an increased depth of inquiry into abuse histories are needed to clarify our understanding of the relationship between physical/sexual abuse and substance abuse. Future studies might benefit by using the more field-standard measures of physical and sexual abuse. In the present analysis, for example, the use of more restrictive definitions of abuse may have resulted in an under-estimation of physical and sexual abuse that can contribute to the problems of under-reporting that exist in many abuse studies.

In the present analysis, 97 women (11% of the sample) comprised the sexually abused (only) group. Differences in treatment outcomes may not be detectable with such a small sample. External validity is also jeopardized when samples are limited to a small number of individuals.

Only 25 to 31 percent of clients in this sample from NTIES reported they had successfully completed treatment. Given that the majority of clients did not complete treatment successfully, a fruitful avenue for future research would be to examine the factors that affect treatment completion among women with abuse histories. Research in this area could aid our understanding of the reasons for premature treatment exit and could potentially identify ways to improve retention and treatment completion.

Future research would benefit from more detailed data collection, particularly in the areas of treatment services desired, treatment services received, and client reasons for coming to treatment and for leaving treatment. Better specification of such treatment service measures could reduce the non-specified “other” responses, and prove useful in better understanding the clients’ motives for seeking treatment, their compliance with treatment, and the factors that affect their premature departure from treatment.

A potentially important area of inquiry for future research would be to assess the services received by clients in different treatment settings, such as residential, compared to outpatient treatment modalities. The practices of different treatment settings, such as the degree to which they target mental health issues to the exclusion of substance abuse (and vice versa), can best be analyzed by including variables at the service delivery unit level. In addition, an examination of which particular ancillary services seem to have the greatest short- and long-term impact on positive outcomes for abused women in substance abuse treatment could be a major contribution to the field.

2.2 Implications for Substance Abuse Treatment Policy

This analysis suggests that it may be beneficial to expand our concept of best practices for treatment for abused women by including appropriately targeted services. Doing so may help to achieve substance abuse treatment outcomes that are as favorable for them as for women with no history of abuse. In the NTIES sample, for example, significantly more of the both repeatedly abused women than the single instance of abuse women received abuse counseling, parent training, and child care counseling. The greater use of these services among repeatedly abused women may have led to treatment outcomes that were as positive for them as they were for women reporting a single instance of abuse.

2.3 Implications for Substance Abuse Treatment Practice

An important implication for treatment practice is that practitioners, as well as researchers and data collectors, could benefit from training in the assessment of physical and sexual abuse among women in substance abuse treatment. For example, clinicians should obtain an extensive physical/sexual abuse history during the intake process and be aware of how difficult it is for women to disclose past abuse. In a study linking childhood sexual abuse with substance abuse, Rohsenow, Corbett, and Devine (1988) found that when individuals in substance abuse treatment were asked specifically about childhood sexual abuse, the reporting rate increased dramatically.

Another practical implication of this analysis is that treatment providers may need to incorporate treatment activities that specifically address past physical/sexual abuse issues. Service expansion may include special counseling groups targeting substance abusers who have also experienced physical and/or sexual abuse, and treatment plans that include abuse counseling as well as other services that address both the substance abuse and the physical/sexual abuse.

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APPENDIX
DESCRIPTION OF THE NATIONAL TREATMENT IMPROVEMENT
EVALUATION STUDY AND CENTER FOR SUBSTANCE ABUSE
TREATMENT DEMONSTRATIONS (1990-1992)

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TREATMENT DEMONSTRATIONS (1990-1992)

The National Treatment Improvement Evaluation Study (NTIES) was a national evaluation of the effectiveness of substance abuse treatment services delivered in comprehensive treatment demonstration programs supported by the Center for Substance Abuse Treatment (CSAT). The NTIES project collected longitudinal data between FY 1992 and FY 1995 on a purposive sample of clients in treatment programs receiving demonstration grant funding from CSAT. Client-level data were obtained at treatment intake, at treatment exit, and 12 months after treatment exit. Service delivery unit (SDU) administrative and clinician (SDU staff) data were obtained at two time points, one year apart.

1. THE NTIES DESIGN

The NTIES study design had two levels—an administrative or services component, and a clinical treatment outcomes component.

1.1 The Administrative/Services Component

This study component was designed to assess how CSAT demonstration funds were used, what improvements in services were implemented at the program level, and what kind and how many programs and clients were affected by the demonstration awards. Four data collection instruments were used to gather administrative/services data: the NTIES Baseline Administration Report (NBAR), the NTIES Continuing Administrative Report (NCAR), the NTIES Exit Log, and the NTIES Clinician Form (NCF).

The unit of analysis for the administrative component was the SDU, defined by CSAT as a single site offering a single level of care. The classification of *level of care* is based on three parameters: facility type (e.g., hospital, etc.); intensity of care (e.g., 24-hour, etc.); and type of service (e.g., outpatient, etc.). An SDU could be a stand-alone treatment provider or it could be one component of a multitiered treatment organization. For example, a large county mental health agency may be the *organization* within which the SDU is located. The organization may have multiple substance abuse treatment components, such as a county hospital and a county (ambulatory) mental health center. The county hospital may have multiple SDUs, such as an inpatient detoxification service, an outpatient counseling service, and a hospital satellite center

providing transitional care. In summary, the SDU provided NTIES evaluators with a stable, uniform level of comparison for examining service delivery issues.

A range of key clinician-specific data elements (within the administrative component) were assessed using the NTIES Clinician Form (NCF). The NCF items were an important adjunct to the facility (SDU)-level instruments. These items assessed clinician training, experience, client exposure, and service provision, and were completed by all counseling and clinical (medical and therapeutic) staff at the individual SDUs.

1.2 Clinical Treatment Outcomes Component

The unit of analysis for the clinical treatment outcomes component was individual client data. NTIES measured the clinical outcomes of treatment primarily through a “before/after” or “pre- to post-treatment” design. This method compares behaviors or other individual characteristics in the same participants, measured in similar ways, before and after an intervention.

Information about clients’ lives for the *before* period were obtained from the NTIES Research Intake Questionnaire (NRIQ), which was administered sometime during the clients’ first three weeks of treatment. The specific areas assessed included:

- Drug and alcohol use
- Employment
- Criminal justice involvement and criminal behaviors
- Living arrangements
- Mental and physical health.

Information about clients’ lives for the *after* period were obtained from the NTIES Post-discharge Assessment Questionnaire (NPAQ), with the same areas assessed at roughly 12 months post-treatment. Other client data sources included a treatment discharge interview (NTIES Treatment Experience Questionnaire, NTEQ), abstracted client records, urine drug screens collected at the time of the follow-up interview, and arrest reports from State databases.

1.3 The Outcome Analysis Sample

Between August 1993 and October 1994, research staff successfully enrolled 6,593 clients at 71 SDUs to participate in three waves of an in-person, computer-assisted data collection protocol. These SDUs were chosen from the universe of treatment units receiving demonstration grant funding from CSAT. Some of the selected facilities were wholly supported by CSAT awards, while others received only indirect support or none.

Clients were interviewed at admission to treatment, when they left treatment, and then at 12 months after the end of treatment. Fewer than 10 percent of the recruited clients refused or avoided participation, and more than 83 percent of the recruited individuals (5,388 clients) completed a follow-up interview. Additional sample exclusions included:

- Missing or undetermined treatment exit date
- Inappropriate length of follow-up interval (less than 5 or more than 16 months)
- Clients incarcerated for most or all of the follow-up period.

The additional sample exclusions resulted in a final outcome analysis sample of 4,411 individuals.

2. TREATMENT DEMONSTRATION PROGRAMS

CSAT initiated three major demonstration programs and made 157 multiyear treatment enhancement awards across 47 States and several territories during 1990 through 1992. One objective common to all demonstrations was CSAT's emphasis on the provision of "comprehensive treatment" services to targeted client populations. The recipients of these awards focused special attention on the substance abuse treatment service needs of minority and special populations located primarily within large metropolitan areas. The demonstration programs are briefly described below.

2.1 Target Cities

Under this demonstration, nine metropolitan areas were selected to receive awards, of which half were included in the NTIES purposive sample. The following treatment improvement activities were explicitly provided for in the awards:

- Establishment of a Central Intake Unit (CIU) with automated client tracking and referral systems in place
- Provision of comprehensive services, including vocational, educational, biological, psychological, informational, and lifestyle components
- Improved interagency coordination (e.g., mental health, criminal justice, and human service agencies)
- Services for special populations—adolescents, pregnant and postpartum women, racial and ethnic minorities, and public housing residents.

2.2 Critical Populations

Under this demonstration program, awardees were required to implement “model enhancements” to existing treatment services for one or more of the following critical populations: racial and ethnic minorities, residents of public housing, and/or adolescents. Special emphasis was given to services provided to the homeless, the dually diagnosed, or persons living in rural areas. A total of 130 grants were awarded, covering services such as vocational support/counseling, housing assistance, integrated mental health and/or medical services, coordinated social services, culturally directed services, and others.

2.3 Incarcerated and Non-incarcerated Criminal Justice Populations

Under this demonstration program, funds were directed toward improving the standard of comprehensive treatment services for criminally involved clients in correctional and other settings. Some program emphasis was placed on ethnic and/or racial minorities. Nine Correctional Setting demonstrations were funded: five in prisons, three in local jails, and one across a network of juvenile detention facilities. All projects included a screening component to identify substance-abusing inmates, a variety of targeted treatment interventions (e.g., therapeutic communities, intensive day treatment programs), and a substantial aftercare component.

A total of 10 non-incarcerated projects were funded. Five programs targeted interventions at clients in diversionary programs, three focused services on probationers or parolees, and two targeted both populations. Almost all of the funded demonstration projects included the following components:

- Basic eligibility determination, followed by systematic screening and assessment
- Referral to treatment
- Graduated sanctions and incentives while in treatment
- Intensive supervision in treatment
- Community-based aftercare with supervision and service coordination.

In total, 19 criminal justice projects were funded as part of the CSAT 1990-1992 demonstrations, and, as indicated in the next section, these projects were purposively over-sampled in order to obtain a more robust evaluation of this program.

3. DESCRIPTION OF SDUs AND CLIENTS BY TREATMENT MODALITY AND PROGRAM TYPE

The 71 SDUs contributing clients to the outcome analysis sample are characterized by modality and (demonstration) program type in Exhibit A-1 below. Among the 698 SDUs in the NTIES universe, 52 percent (n=365) were Target Cities programs, 39 percent (n=274) were Critical Populations programs, and 9 percent (n=59) were Criminal Justice programs.

EXHIBIT A-1						
SDUs IN THE OUTCOME ANALYSIS SAMPLE						
Program Title Number of SDUs (% of NTIES Universe)¹	NTIES Sample	Methadone	Outpatient	Long-term Residential	Short-term Residential	Correctional
Target Cities n=365 (52%)	31 (44%)	6	15	6	4	0
Critical Populations n=274 (39%)	27 (38%)	1	13	10	3	0
Criminal Justice n=59 (9%)	13 (23%)	0	5	0	0	8
Totals N=698 (100%)	71 (100%)	7	33	16	7	8

¹ The original NTIES universe of SDUs included a program type called *Specialized Services*. Because clients for the outcome analysis sample were not drawn from these SDUs (n=94), they are excluded from the Exhibit.

In terms of the SDUs sampled for the NTIES outcome analysis, 44 percent were Target Cities programs, 38 percent were Critical Populations programs, and 23 percent were Criminal Justice programs. Criminal Justice SDUs were purposely over-sampled as part of the NTIES evaluation design (CSAT, 1997). Nearly half of the sampled SDUs were (non-methadone) outpatient programs, and about one-quarter were long-term residential programs.

As shown in Exhibit A-2, 59 percent of all NTIES clients were sampled from Target Cities SDUs. Slightly more than 21 percent of all NTIES clients were sampled from Critical Populations SDUs and 20 percent were sampled from Criminal Justice SDUs. Outpatient (non-methadone) SDUs treated more than one-third (35%) of the clients in the outcomes analysis sample, and almost 80 percent of these were sampled from Target Cities programs.

EXHIBIT A-2					
DISTRIBUTION OF CLIENTS IN THE OUTCOMES ANALYSIS SAMPLE					
Program Title Number of Clients (% of Analysis Sample)	Methadone	Outpatient	Long-term Residential	Short-term Residential	Correctional
Target Cities n=2,600 (59%)	377 (89%)	1,214 (78%)	504 (60%)	505 (58%)	0
Critical Populations n=931 (21%)	45 (11%)	220 (14%)	298 (35%)	368 (42%)	0
Criminal Justice n=880 (20%)	0	132 (8%)	39 (5%)	0	709 (100%)
Totals N=4,411 (100%)	422	1,566	841	873	709

Readers who are interested in more detailed information about the NTIES project are invited to visit the NEDS Web site at <http://neds.calib.com>. The NEDS Web site provides the full-length version of the NTIES Final Report (1997), as well as copies of all data collection instruments employed in NTIES.

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