# An Outcome Evaluation of the Forever Free Substance Abuse Treatment Program: One-Year Post-Release Outcomes



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# An Outcome Evaluation of the Forever Free Substance Abuse Treatment Program: One-Year Post-Release Outcomes

## Executive Summary

This executive summary highlights the background, design and methods, and findings relating to the outcome evaluation of the Forever Free Program located at the California Institution for Women in Frontera. The Forever Free Substance Treatment Program is an intensive residential treatment program for women inmates with substance abuse problems followed by voluntary community residential treatment during parole.

**Study Goals**

- Contrast the 12-month post-release outcomes of Forever Free participants with those of the comparison group with regard to parole performance, drug use, employment, and psychological functioning.
- Examine differences between groups with regard to their relationships with their children following release to parole (custody status and parenting).
- Examine service needs during parole for both groups.
- Determine outcome predictors for the whole sample and for Forever Free participants (tested predictors included group status, age, ethnicity, primary drug problem, criminal history, psychological functioning, level of therapeutic alliance, treatment readiness, and locus of control).

The outcome evaluation reported here was funded by the National Institute of Justice (NIJ), under its Residential Substance Abuse Treatment (RSAT) Evaluation Program (1999-RT-VX-K003).

### Background

Drug-dependent women pose a serious problem for criminal justice authorities for several reasons:

- The proportion of women inmates has grown at a faster rate than that of men;
- Female prisoners have some needs that differ from those of male prisoners, requiring different management and programming approaches that may contribute disproportionately to burdens on the system;
- Most jurisdictions do not have appropriate treatment programs for women, and treatment services often do not deal adequately with the underlying problems driving their criminal activities; and,
- Because of relapse to drug use, failure on parole and recidivism in general is high.

Although few controlled studies of the effectiveness of substance abuse treatment for women in the criminal justice system exist, the extant studies show a small effect on criminal activity (most other outcome variables have not been reported).

### Description of the Forever Free Program

The Forever Free Program began in 1991. It was developed and is currently being operated by Mental Health Systems, Inc., under contract to the Office of Substance Abuse Programs of the California Department of Corrections (CDC). Between May 1991, when Forever Free began, and

December 31, 1998, 2,017 women graduated and were released to parole. At the time of the study, treatment was six months in duration and the women attended treatment for four hours per day in addition to their eight-hour work assignment in a prison job or education program. A new cohort of about 30 women joined the program every six weeks.

As a modified therapeutic community with a cognitive-behavioral curriculum stressing relapse prevention, Forever Free's approach presented addiction as a disease. Using the Gorski curriculum, the program taught clients to identify symptoms and use skills and strategies for dealing with post-acute withdrawal (relapse prevention). In establishing the Forever Free Program, CDC had the following objectives:

- Provide in-prison treatment with individualized case planning and linkages to community-based aftercare;
- Provide an in-prison program that includes a range of services to meet the psychosocial needs of participants, including counseling, group interaction, 12-step programs, educational workshops, relapse prevention training, and transition plans to refer clients to appropriate community aftercare;
- Reduce the number of in-prison disciplinary actions;
- Reduce substance abuse among participants;
- Reduce recidivism.

In order to achieve these objectives, the Forever Free Program offered an array of services and programs, among them assessment, treatment planning, individual and group substance abuse counseling, parole planning, 12-step groups, and urine testing. In addition, the 26-week schedule contained a curriculum that emphasized relapse prevention, cognitive-behavioral skill building, and women's issues. Sessions devoted to women's issues covered a number of subjects important to women's recovery, including self-esteem and addiction, anger management, assertiveness training, healthy versus disordered relationships, abuse, post-traumatic stress disorder, co-dependency, parenting, and sex and health. Since the intake phase of the study was completed, in response to changes in CDC policy, the program was redesigned to conform more closely to the therapeutic community model. It also has been changed from a six-month to a four-month program (since most clients are short-term parole violators).

**Design and Methods**

*Subject Selection and Data Collection Procedure: Treatment Clients.* All clients entering the Forever Free program between October 1997 and June 1998 were invited to participate in the study. (Baseline recruitment took place under our process evaluation of Forever Free, supported by NIJ grant 97-RT-VX-K003.) Of the 149 eligible clients, 15 (10%) declined to participate and an additional 15 (10%) were unavailable for study intake due to illness, court appearances, family visits, or other reasons, leaving a total of 119.

*Comparison Clients.* Women attending Life Plan for Recovery, an eight-week (three hour per day) substance abuse education course, were selected as the comparison group for the study because of their similar backgrounds and voluntary participation in a low-intensity substance abuse education program. Those enrolled in the course between April and November of 1998 were invited to participate. Of the 105 eligible women, 8 declined to participate and one was removed from the sample because she subsequently entered the Forever Free program and became part of that sample, leaving a total of 96 comparison subjects.

On most measures, there was no statistically significant difference between the treatment and comparison groups. The women in both groups were about 35 years of age, averaged about 16 prior arrests and 8 prior incarcerations, and, at intake, most were incarcerated for a drug offense. In addition, they were poor, ethnically diverse, undereducated, and worked in low paying jobs.

*Data Collection Procedure: Follow Up.* Follow up took place approximately one year after release from prison. We were able to locate and interview 84% of our intake subjects at follow-up (from both the treatment and comparison groups). Using the CDC Offender-Based Information System (OBIS), we obtained reincarceration information on all study participants.

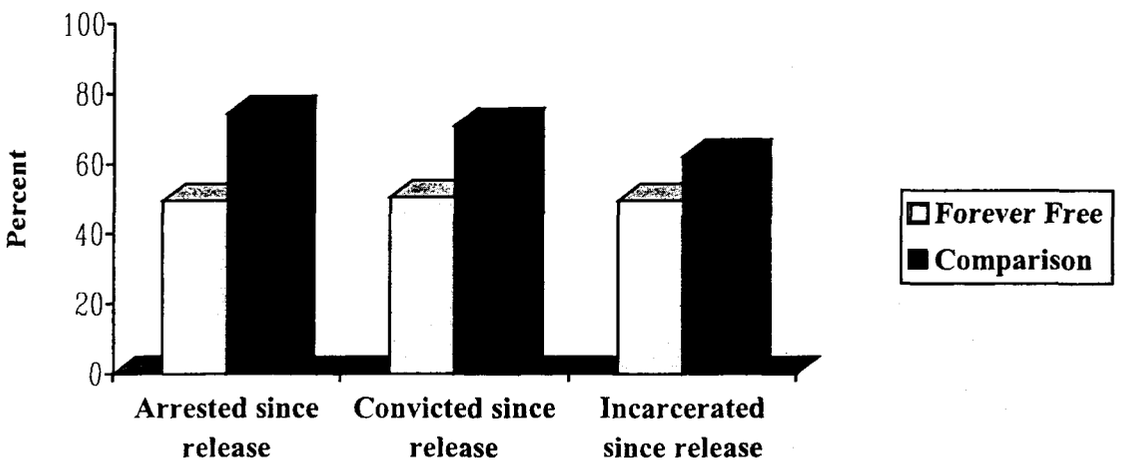
*Outcome Measures.* In addition to collecting background information on the subjects, we utilized standardized instruments to collect information on the subjects' behavior since release in the following domains:

- drug and alcohol use
- relationship with their children
- substance abuse treatment
- services needed and received
- social support
- drug-related locus of control
- criminal activity, arrests, and reincarcerations
- tobacco use
- vocational training
- treatment motivation
- psychological status

*Data Analysis.* Data were analyzed using SAS and SPSS chi-square and *t*-test procedures. We used logistic regression (SPSS) to control for participants' baseline characteristics in analyzing all participants' reincarceration, drug use, alcohol use, and employment status at follow-up. Because we had more background information at baseline on the treatment group, we used additional variables in our logistic regression analysis of this group. Survival analysis was performed using the Kaplan-Meier log-rank statistic (SPSS). We used Cox regression to examine the relationship between time to reincarceration and covariates identified in our logistic regression analysis (SPSS).

**Findings**

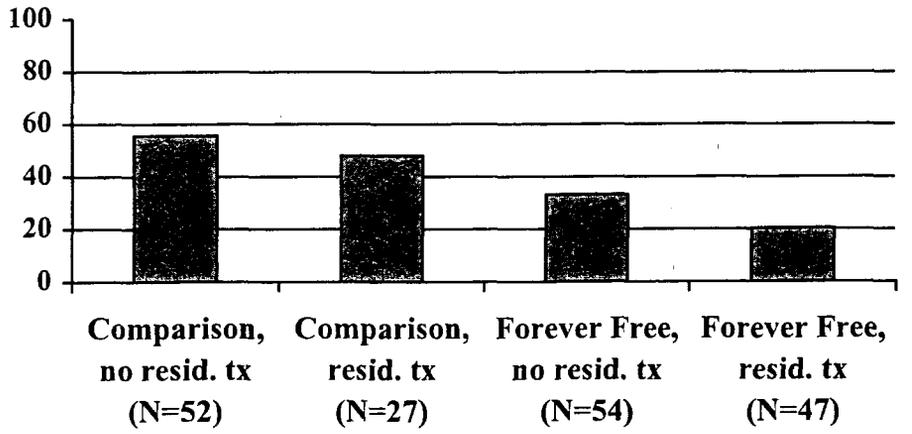
Our study demonstrates the effectiveness of the Forever Free program for women offenders and provides data on outcome domains of great importance to women, but not generally available in the literature (e.g., employment, relationships with children, and services needed and received).



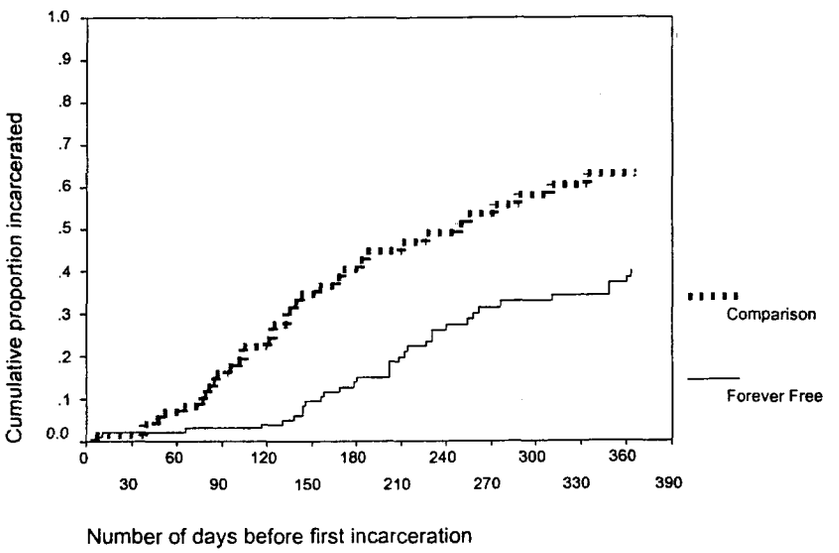

**Criminal justice measures: Forever Free participants perform better**

*Criminal Justice Measures.* According to self-report data, Forever Free program participants were arrested and/or convicted at a significantly lower rate than those of the comparison group. Also, a lower percentage of Forever Free participants were incarcerated (although this did not reach statistical significance).

A separate analysis for the full sample showed the effect that residential treatment within prison (Forever Free) and after release had on incarceration one year after release. As treatment exposure increased from no residential treatment in prison or on parole to treatment both in prison and during parole, reincarceration significantly decreased.

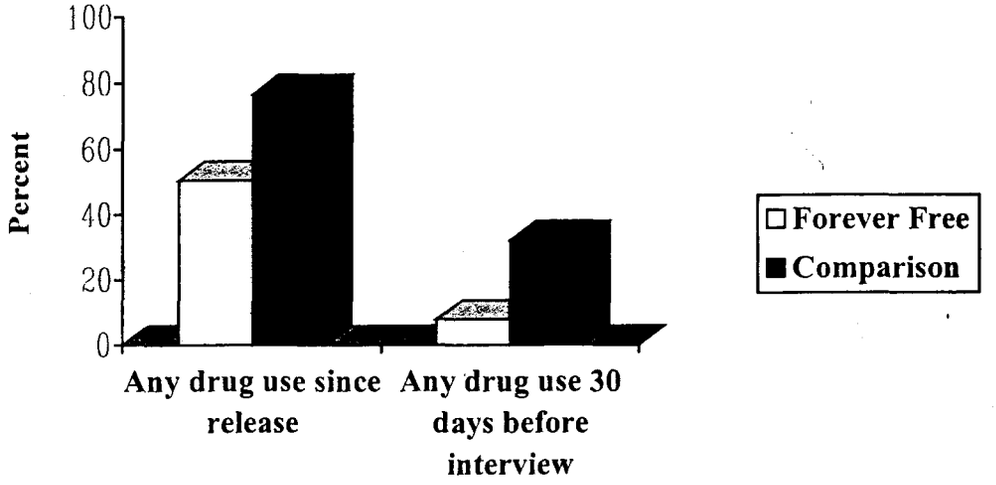



**Percent reincarcerated: Prison treatment + parole treatment = best outcome**



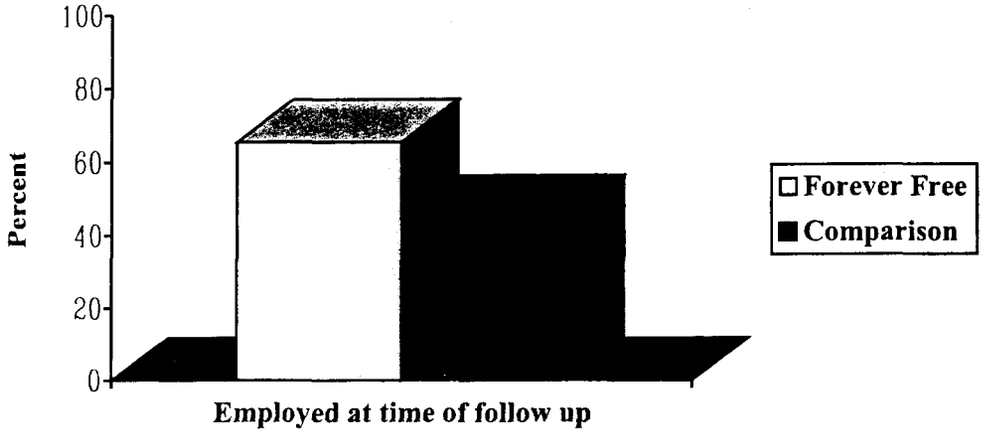

**Forever Free treatment significantly delays reincarceration**

Using California Department of Corrections data, survival analysis showed a significant difference between the groups in days to first reincarceration, with Forever Free women fairing much better. At six months after release (180 days), approximately 40% of the comparison group had been reincarcerated while less than 15% of the Forever Free participants had been reincarcerated. At one year post-release, over 60% of the comparison women had been returned to CDC custody in contrast to approximately 40% of Forever Free women. Controlling for background variables (Cox regression analysis), we found that age and group status were predictors of time to reincarceration, with older subjects and Forever Free participants having delayed reincarceration.




## Lower levels of drug use among Forever Free participants

*Drug Use.* A significantly lower percentage of Forever Free participants reported using any drug since release from CIW and in the 30 days before the follow-up interview. Alcohol use since release was also significantly lower for the Forever Free group. Those who attended treatment after release were less likely to use drugs in the thirty drugs prior to their follow-up interview. Also, the comparison group reported spending more money on drugs and alcohol during the 30 days prior to the interview than the treatment group. Nearly 8 in 10 women in both groups smoked, and the majority of these reported wanting to try to a stop smoking program.




## Higher level of employment among Forever Free participants

*Employment.* Two-thirds of Forever Free participants were employed at the time of the follow-up interview compared to less than half of the comparison group. Residential treatment during parole was key to improving all subjects' chances of being employed.

*Psychological Functioning.* While participating in the Forever Free program, participants' overall psychological functioning improved, and, for the most part, they were able to maintain their

improved functioning during the year following release. At follow-up, Forever Free participants had significantly better psychological functioning than the comparison group.

*Treatment Motivation and Treatment Attendance.* We looked at treatment motivation and attendance at follow-up for both the treatment group and the comparison group. The comparison group felt that drugs were a greater problem and had a greater desire for help than the treatment group. Forever Free participants felt that they had greater control over their drug-use behaviors. In analyses on the relationship between treatment motivation and treatment received during follow-up, those who received treatment after parole had higher mean scores on the Desire for Help subscale than those who did not attend aftercare.

*Relationships with Children.* The vast majority of women in the study had children and two-thirds had children under 18 years old. Of those with minor children, over half had custody of at least some of their children. In contrast with the comparison group, a larger number of Forever Free women had custody of all of their children. We found significant differences at follow-up between the Forever Free and comparison groups in children's living situations. Forever Free women were more likely to have a child living with them, while the children of the comparison group were more likely to live with a grandparent. As a result, Forever Free women spent significantly more time engaged with their children in various activities in the home. Forever Free women also rated themselves as doing well in their parenting, better than the self-rating of the comparison group.

*Services Needed and Received During Parole.* Women in the comparison group had greater service needs than the Forever Free group, but the comparison group received services at a lower rate than the Forever Free group. The greatest unmet need for both groups was in the area of vocational and educational services, with nearly 40% reporting that they did not receive the vocational services they needed.

*Outcome Predictors.* Controlling for covariates in our logistic regression analysis, we found that group status did not predict reincarceration. However, our Cox regression analysis of *time to reincarceration*, which also controlled for covariates, found that group status and age were predictive of time to reincarceration (i.e., Forever Free participants and older participants had delayed reincarceration). Of the two analytic methods, the Cox regression analysis is the more sensitive measure. Forever Free participants were also less likely than the comparison group to use drugs during the year following release. If a participant was older or reported cocaine as her primary drug, she was less likely to use alcohol during the year following her release. Significantly more Forever women were employed at follow-up. Also, methamphetamine users were more likely to be employed than heroin users and those with more education were more likely to be employed. When looking at the logistic regression results of Forever Free participants only, we found that those women who attended residential treatment during parole were nearly 15 times more likely to be employed at follow-up.

**Recommendations and Directions for Future Research**

It is clear from this report and from past studies of Forever Free that treatment after release is extremely important to success during parole. For instance, we reported in this study that women who attended community residential treatment were much more likely to be employed at follow up. In light of this evidence, we recommend that criminal justice system policy-makers encourage, if not mandate, community aftercare for women participating in prison-based treatment.

It is likely that the high levels of unmet service needs documented in this report contributed in some part to the failure of those women who were returned to custody during follow up. We suggest a policy change that requires needs assessment for women about to be released and provides a linkage to community-based programs that address women parolees' service needs through direct

service delivery. More research on the impact of post-release services on long-term outcome is needed.

**Recommendations**

- Strongly encourage or mandate community aftercare
- Require a service needs assessment prior to parole
- Link Forever Free parolees to community services
- Provide vocational training to improve income status of women and their children
- Undertake additional research on cognitive-behavioral treatment in prison settings
- Undertake additional research on the impact of post-release services on long-term outcome

This study demonstrates the effectiveness of the cognitive-behaviorally-oriented Forever Free program. Most research on prison-based treatment involves programs based on the therapeutic community model. We recommend that additional research be undertaken on the effectiveness of psychoeducational or cognitive-behavioral models of treatment in contrast to therapeutic community treatment within criminal justice settings. In addition, therapeutic community treatment programs typically are 12 months in length. That the Forever Free program, which was only 6 months in duration at the time of the study, was able to demonstrate its effectiveness may indicate that considerable cost savings could be achieved. Additional research needs to be undertaken on the composition and duration of programs for women in the criminal justice system.

This study presents evidence of better parenting outcomes for the women who participated in Forever Free. While this is likely due to the effects of treatment, we cannot rule out the possibility of baseline differences in the groups. Because improving the status of children of CJS-involved women is so important to breaking the cycle of drug use, crime, and poverty, there is great need for more research on this question.

Despite the limited vocational training Forever Free women received in prison, they were more likely than the comparison women to be employed at follow up. However, their income levels were low, putting them at the poverty line if they had two children at home. In addition, we found that the study participants' greatest unmet service needs involved vocational training and employment assistance. Because, as the law now stands, those convicted of drug crimes are not eligible for training through welfare-to-work programs, vocational training readily available to those in the criminal justice system is essential to improving the income status of CJS-involved women and their families.

*Limitations.* Although the treatment group and comparison groups were very similar, our data may be limited due to our inability to randomly assign subjects. Also, due to a limited budget, we were unable to capture baseline data for the comparison group on certain scales (treatment motivation, psychological functioning, etc.), which, had we had such data, may have enabled us to better correct for any group differences. Furthermore, since this was an evaluation of a single program, our ability to generalize to other women's programs in the criminal justice system may be limited.

# An Outcome Evaluation of the Forever Free Substance Abuse Treatment Program: One-Year Post-Release Outcomes

## Introduction

The Forever Free Substance Abuse Treatment Program is an intensive residential treatment program lasting four to six months for women inmates with substance abuse problems, followed by up to six months of community residential treatment during parole supervision. The Forever Free program is located at the California Institution for Women (CIW) in Frontera. The study reported here is an outcome evaluation of Forever Free funded by the National Institute of Justice (NIJ), under its Residential Substance Abuse Treatment (RSAT) Evaluation Program. The objectives of the analysis of study findings were to:

1. Contrast the 12-month post-release outcomes of Forever Free participants with those of the comparison group with regard to parole performance, drug use, employment, and psychological functioning.
2. Examine differences between groups with regard to their relationships with their children following release to parole (custody status and parenting).
3. Examine service needs during parole for both groups.
4. Determine outcome predictors for the whole sample and for Forever Free participants (tested predictors included group status, age, ethnicity, primary drug problem, criminal history, psychological functioning, level of therapeutic alliance, treatment readiness, and locus of control).

This document is the follow up to our process evaluation of Forever Free (NCJ # 183013, see that report for additional studies of the Forever Free program).

The following section provides an overview of substance abuse problems among women offenders nationally and in California and presents information on the prior treatment experience of substance-abusing women offenders in California. The next section discusses the need for treatment and current directions in the treatment of substance-abusing women offenders, followed

by a brief summary of findings from previous studies of Forever Free. The subsequent section presents the research design, including domains and instruments, subject selection, and data collection procedures. This is followed by a discussion of the findings of the evaluation, including sample characteristics, parole performance, drug use, employment, psychological functioning, treatment motivation and attendance, relationships with children, and services needed and received during parole. The analysis contrasts the outcomes of Forever Free participants with those of a comparison group. The final section provides study conclusions and recommendations.

## Background

Drug-dependent women pose a serious problem for criminal justice authorities for several reasons: (1) the proportion of women inmates has grown at a faster rate than that of men; (2) female prisoners have some needs that differ from those of male prisoners, requiring different management and programming approaches that may contribute disproportionately to burdens on the system; (3) most jurisdictions do not have appropriate treatment programs for women, and treatment services often do not deal adequately with the underlying problems driving their criminal activities; and (4) because of relapse to drug use, failure on parole and recidivism in general is high (American Correctional Association, 1990; Greenfield & Snell, 1999; Mumola & Beck, 1997; Snell, 1994; Wellisch, Anglin, & Prendergast, 1993a). Below, we provide a summary of statistics on substance-abusing women offenders in the United States and in California that document these trends.

### Recent Data on Women Inmates and Their Children

Although the nationwide growth in incarceration is now slowing, the increase in incarceration during the 1990s was dramatic. According to the Bureau of Justice Statistics (Beck & Harrison, 2001), the state prison population in the United States increased by 74.6% between 1990 and 2000, from 708,379 to 1,236,476. At the end of 2000, 91,612 women were in state or federal

prisons, constituting 6.6% of all prison inmates, up from 4% in 1986 (Snell, 1994; Beck & Harrison, 2001). The primary charges brought against women, as well as a majority of violations of probation and parole, are linked to drugs. In 1998, there were about a quarter million drug arrests of women, accounting for 18% of all arrests for drug law violations. The number of felony drug and property convictions of women has steadily risen—in 1990, 43,000 women were convicted of drug felonies in state courts, increasing to 59,027 in 1996. During the same period, the number of women convicted of income-associated offenses, which women frequently engage in to support drug use, rose from 48,206 to 69,536. In 1997, 34.4% of the women in state prisons had been convicted of a drug offense and 26.6% had been convicted of a property crime. Women inmates reported higher levels on all measures of drug use than did male inmates (Greenfeld & Snell, 1999).

Among women, histories of sexual and physical abuse in childhood are major pre-existing conditions in subsequent delinquency, addiction, and criminality (Pollock, 1998). The trauma that results from such early victimization increases the risk of interpersonal violence in women's adolescent and adult relationships (Bloom, Chesney-Lind, & Owen, 1994; Messina, Burdon, & Prendergast, in press). In fact, women are frequently initiated to drug use by their male partners, and often continue to use drugs to cope with abusive relationships (Covington & Surrey, 1997; Owen, 1998). According to a General Accounting Office report (1999), in 1997, 57% of women inmates in state prisons reported suffering physical or sexual abuse prior to entering prison.

Like women everywhere, most women in prison are mothers. And, unlike their male counterparts, imprisoned women often had child custody before incarceration. Nationally, approximately seven in ten women inmates had children under 18 years of age, and of these, two-thirds of the children were living with their mothers before incarceration (Greenfield & Snell, 1999). Snell (1994) found that with the mother in prison, the children's grandparents were the most common single category of caregiver (57% of black mothers, 55% of Hispanic mothers, and 41%

of white mothers). Nearly 10% of the women said that their children were in a foster home, agency, or institution. Since entering prison, half of the women had been visited by their children, four-fifths had corresponded by mail, and three-quarters had talked with them by telephone (Snell, 1994).

Table 1, below, shows levels of drug use before incarceration by women in state prisons (GAO, 1999). The percentages increase in all categories between 1991 and 1997, reflecting increased incarcerations for drug use. This trend of increased incarceration of women for drug crimes is not the result of a general increase in drug use in the U.S. adult population. Drug use has, in fact, decreased in the U.S. since the 1980s (SAMSHA, 1999). In addition, according to an American Correctional Association survey (1990), women reporting that they used drugs were less likely to be incarcerated for a violent crime than were those who reported no use of drugs.

**Table 1**
***Drug use before incarceration among women inmates in state prisons***

| | Percent of state inmates | |
|---|---|---|
| **Drug use** | **1991** | **1997** |
| Ever used drugs regularly before incarceration* | 65.3 | 73.6 |
| Used drugs in month before current offense | 53.9 | 62.4 |
| Under drug influence at time of current offense | 36.3 | 40.2 |
| Committed offense to get money to buy drugs | 23.9 | 29.0 |

*Regular use is defined as once a week or more for at least one month.
Source: GAO (1999) summary of BJS data.

Recidivism among women offenders may be attributed, in part, to their underclass status. They have usually been imprisoned for non-violent crimes, are predominantly undereducated, poor, young, and, if employed at all prior to incarceration, usually worked in unskilled, low-paying jobs.

## Substance-Abusing Women Offenders in California

*Demographics*

In California, there were 162,000 inmates in the state's prison system on June 30, 2000, 7% of whom were women (California Department of Corrections, 2000a). This represents a doubling in the state prison population since 1988. As of January 1, 1998, the average age of women inmates in California was 35.3 years, with over 80% between 25 and 44 years of age (Blakeley, 1998). In 2000, 37.9% of incarcerated women were White, 34.0% were Black, and 23.5% were Hispanic (California Department of Corrections, 2000a).

Owen and Bloom (1995) conducted face-to-face interviews with 294 women (randomly selected from a count of 7,043 women inmates) to obtain a profile of women prisoners in the four California prisons that housed women. The background characteristics of this sample of women were as follows: 46% of the sample were Black, 36% were White, and 14% were Hispanic; over two-thirds of the women were between 25 and 44 years of age; most were unmarried; over one-third had not completed high school, although 11.6% had obtained a GED; over 50% had been unemployed prior to arrest; 37.1% worked at legitimate jobs; 21.8% had been on public assistance; and about 80% of the women indicated that they had been victims of abuse at some time in their lives.

*Children*

A recent overview of women offenders in California (Blakeley, 1998) indicated that over three-fourths of the substance-involved women inmates had children. In a previous study of substance-abusing women in the Forever Free Program, Prendergast, Wellisch, and Wong (1996) reported that most of the women offenders were of childbearing age, 75% had children under 18 years old, and most were single mothers who received little or no help from the child's father. Prior

to incarceration, 37.5% of these women had custody of their children, and most expected to live with their children after release from prison.

*Drug Use and Crime*

In 2000, 28% of inmates in California were committed for an offense involving drugs. Women were more likely than men to be committed for a drug offense (43.1% versus 26.9%) (California Department of Corrections, 2000a). In 1998, more than half of women in prison were incarcerated for non-violent crimes related to drugs or crimes against property (Blakeley, 1998).

Owen and Bloom (1995) found that 15.6% of incarcerated women had engaged in drug dealing, and 12.3% had obtained support through other illegal sources; 60.4 % were imprisoned on a new commitment, the remainder were committed for a parole or probation violation; and just under 30% were committed for a drug offense. They had extensive drug involvement: only about 13% reported no drug use at any time; for the others, 59% indicated initial drug use at age 18 or younger; and almost half reported that they had injected drugs at some time in their lives. Blakeley (1998) found that of California women incarcerated for drug or property crimes, most had first used drugs in their early teens and most had used drugs immediately prior to their commitment offense.

**Parole Violators and Recidivists**

In 2000, the average daily population of felons on parole in California totaled 117,377, which included parolees supervised by the California Department of Corrections (CDC) and parolees at large; of this number, 12,340 were women. The five top counties to which released prisoners were paroled for their first parole were Los Angeles (28.7%), San Diego (6.4%), San Bernardino (5.5%), Orange (5.1%), and Riverside (4.9%). In addition, 14.3% were deported following release by the U.S. Immigration and Naturalization Service. Of the controlling offenses for the 11,753 women under parole supervision, 48.3% were drug and 34.5% were property offenses. During that same

year, 8,042 women parolees were returned to prison, 1,443 with a new term and 6,599 pending a revocation hearing or to serve parole revocation time (CDC, 2000a, 2000b, 2000c).

**Prior Treatment Experience of Women Offenders in California**

Fifty-seven percent of the women in California prisons interviewed by Owen and Bloom (1995) reported that they had participated in prior drug and alcohol treatment. Of these, nearly half reported participation in self-help programs (e.g., 12-step, AA, NA, peer counseling), split evenly between community-based and prison programs. Outside of self-help, they reported that they had been in methadone maintenance/detox (20%), residential treatment (15%), or some other type of treatment.

During 1998, there were 129,931 unique[1] admissions into the community-based treatment programs that reported to the California Alcohol and Drug Data System (CADDS), maintained by the California Department of Alcohol and Drug Programs (ADP) and available to DARC for analysis. Women comprised 45,497 (35.0%) of these unique admissions. Of the women admitted to treatment, 14,450 (31.2%) were involved with the criminal justice system: 65.8% were on probation, 17.3% were on parole, 13.2% were under diversion, and 3.6% were incarcerated.

**Substance Abuse Treatment for Women Offenders: Effectiveness**

Controlled studies of the effectiveness of substance abuse treatment for women in the criminal justice system are few. A recent meta-analysis of substance abuse treatment effectiveness for women (Orwin, Francisco, & Bernichon, 2001) demonstrated effectiveness in a number of outcome areas. The authors examined three contrasts to determine effectiveness: treatment versus no treatment, women-only versus mixed-gender treatment, and enhanced versus standard women's treatment. Studies containing criminal justice outcome data were limited to the treatment versus no

[1] To determine unique admissions, we counted each client only once for the year.

treatment contrast; and showed a small effect on criminal activity. Data on employment outcomes were not available for the meta-analysis.

## Description of the Forever Free Substance Abuse Treatment Program

The Forever Free Substance Abuse Treatment Program began in 1991. It was developed and is currently being operated by Mental Health Systems, Inc., under contract to the Office of Substance Abuse Programs of the California Department of Corrections. The original Forever Free program was designed to provide four months of in-prison treatment. When women were being recruited for this study, the Forever Free program had been extended to a six-month program under RSAT funding; however, since that time, RSAT funding has ceased and the program has returned to its original length of four months.

At the time of the study, the women attended treatment for four hours per day in addition to their eight-hour work assignment in a prison job or education program. A new cohort of about 30 women joined the program every six weeks.

As a residential program with a cognitive-behavioral curriculum stressing relapse prevention (Gorski & Miller, 1979; Marlatt, 1985), Forever Free's approach presented addiction as a disease. The Gorski curriculum used by the program was designed to assist clients in identifying symptoms and teach skills and strategies for dealing with post-acute withdrawal. Stated objectives of the Forever Free Program were to:

1. Provide in-prison treatment with individualized case planning and linkages to community-based aftercare;
2. Provide an in-prison program that includes a range of services to meet the psychosocial needs of participants, including counseling, group interaction, 12-step programs,

educational workshops, relapse prevention training, and transition plans to refer clients to appropriate community aftercare;

3. Reduce the number of in-prison disciplinary actions;[2]
4. Reduce substance abuse among participants;
5. Reduce recidivism.

In order to achieve these objectives, the Forever Free program offered an array of services and programs, among them assessment, treatment planning, individual and group substance abuse counseling, parole planning, 12-step groups, and urine testing. In addition, the 26-week schedule contained a curriculum that emphasized relapse prevention, cognitive-behavioral skill building, and women's issues. Sessions devoted to women's issues covered a number of subjects important to women's recovery, including self-esteem and addiction, anger management, assertiveness training, healthy versus disordered relationships, abuse, post-traumatic stress disorder, co-dependency, parenting, and sex and health. Since the intake phase of the study was completed, in response to changes in CDC policy, the program was redesigned to more closely conform to a therapeutic community model.

## Recent Studies of Forever Free

We recently reported on a process evaluation of Forever Free (Prendergast, Hall, Wellisch, & Baldwin, 2000), a brief summary of which is offered here. Objectives of the process evaluation study were to: (1) document the history and current status of the program, especially linkages with community programs that provide continuity of care following release to parole; (2) select a treatment and a comparison group and collect background data and locator information on the

[2] Because of the difficulty of collecting data on disciplinary actions (they must be obtained from handwritten logs), our funding constraints prevented us from including analysis of this objective of the program as a study goal.

subjects; (3) determine the psychosocial status of the treatment group; (4) determine the relationship that mothers in the treatment group have with their children; (5) disseminate findings of the project to policy makers, researchers and practitioners in criminal justice and drug treatment; and (6) establish the foundation for the current outcome evaluation of the program. Data sources were an intake form completed by participants one month after program entry, a pre-release form completed by participants just prior to their release, the comparison group form, and the locator form completed by all subjects in the study. We collected data in five domains: therapeutic alliance, psychological functioning, treatment motivation, group interaction, and locus of control.

Of the 119 women in the treatment group, only four did not graduate from the program. Forty-seven (40.9%) program graduates went on to residential treatment in the community. There were significant improvements in Forever Free participants' psychological functioning by the end of treatment. Treatment participants also reported very high levels of therapeutic alliance with their treatment counselors and high levels of treatment motivation. A high percentage of those with children reported some contact with their children while incarcerated, but many also rated themselves as "poor" or "fair" parents. Only 36% of women with children said that participation in Forever Free would or might affect the custody of a child. We recommended that future programs for substance-abusing women inmates include services to address mother-child relationships, parenting skills, and opportunities for improving bonding between mother and child.

In another study (Hall, Baldwin, & Prendergast, 2001), we used qualitative methods to investigate the barriers to success on parole among Forever Free participants. We held focus groups with women who had nearly completed the program and were about to be released, with Forever Free graduates in community residential treatment, with Forever Free graduates with long-term success (drug-free and arrest-free for at least three years), and with Forever Free graduates who had returned to prison. Primary barriers to success on parole reported by the women were refusing

community residential treatment, lack of vocational services within community residential programs, lack of community residential treatment programs that accept children, and the difficulty of avoiding habitual drug-using areas.

## Design and Methods

This section describes subject selection, data collection procedures, instruments, measurement domains, and data analysis procedures.

### Subject Selection and Data Collection Procedure: Intake

*Treatment clients*. All clients entering the Forever Free program between October 1997 and June 1998 were invited to participate in the study. Of the 149 eligible clients, 15 (10%) declined to participate and an additional 15 (10%) were unavailable for study intake due to illness, court appearances, family visits, or other reasons, leaving a total of 119. Treatment clients were grouped by the program into cohorts. New cohorts were admitted to treatment every 6 weeks and consisted of approximately 30 women. All members of a particular cohort had the same counselor. We collected intake data approximately one month after each new cohort began treatment. Because we were collecting information on therapeutic alliance, it seemed that by collecting information at this point, clients would be better able to rate their relationships with their counselors. Approximately one month after each new cohort began treatment, research staff visited the treatment program. After the treatment counselor introduced the researchers, the counselor left the room. Research staff then explained the study to the clients, provided summary sheets describing the study, provided copies of the study's certificate of confidentiality, and read the informed consent form to the clients. After securing consent, clients were asked to complete the intake instrument on their own. Those clients with reading difficulties had the instrument read to them.

*Comparison clients.* Women attending Life Plan for Recovery, an eight-week (three hour per day) substance abuse education course, were selected as the comparison group for the study because of their similar backgrounds and voluntary participation in a low-intensity substance abuse education program. Those enrolled in the course between April and November of 1998 were contacted shortly before the time of their release and asked to be part of the study. Of the 105 eligible women, 8 declined to participate and one was removed from the sample because she subsequently entered the Forever Free program and became part of that sample, leaving a total of 96 comparison subjects. The study was introduced to, and consent obtained from, the comparison group in a manner similar to that described for the treatment group.

**Data Collection Procedure: Follow up**

Women in both the treatment and the comparison groups were followed up one year after release.

*Interviewer training.* Interviewers had experience on other DARC projects, but they were also specially trained for this study. A three-day training session conducted by the Project Director and the DARC Field Coordinator consisted of (1) complete familiarization with project aims, the nature of the sample, the instrument, urine sampling procedures, telephone and in-person interview procedures, and referral procedures, (2) instruction on issues of confidentiality and informed consent; (3) observation by interviewers of subject interviews conducted by the Project Director both on the phone and in person, (4) mock interviews with the Project Director; and (5) subject interviews monitored by the Project Director. At the start of training, interviewers received a training notebook containing background information on the project, general interview procedures, phone interview techniques, interview specifications, a sample instrument correctly completed, urine collection procedures, and tracking and locating procedures.

After the initial training, interviewers and the Project Director met weekly to review progress, clarify interview procedures, and receive feedback on the interviews. Data collection was continuously monitored to ensure quality control and consistency among interviewers. The Project Director periodically sat in on interviews in order to ensure compliance with interview protocols.

*Locating subjects for follow up.* DARC's subject location procedures have been tested and refined over many years and have been described in a detailed manual that is distributed nationwide by the Center for Substance Abuse Treatment (Anglin, Danila, Ryan, & Mantius, 1996). With adequate resources, we have demonstrated our ability to track and locate subjects, with successful location rates of 90% or greater in most studies.

At intake, study participants filled out a locator form (described below). Because of the budget limitations on this study, we expected that 80% of the sample would be located, and allowing for deaths and refusals, 75% (approximately 150 subjects) would be interviewed. We obtained better results, interviewing 84% (n=180) of intake subjects, 101 interviews with Forever Free participants (85% of the original sample) and 79 interviews with the comparison sample (82% of the original sample). Three subjects were eliminated from follow up because their one-year follow up due dates were outside the study window, two subjects had to be eliminated from follow up because they received additional sentence time and at their follow-up due dates had not been released from prison, two subjects refused follow up, and one subject was deceased (totaling 4% of the original sample). The remaining 27 subjects (13%) were not located.

*Interviews.* Follow-up interviews took place from September of 1999 to August of 2000. Two groups of subjects received face-to-face interviews, those who were incarcerated and those residing in Los Angeles County who were randomly selected for urine tests, amounting to 61% of the sample. (Incarcerated subjects were not asked to provide urine samples.) Residents in other counties who were not incarcerated received telephone interviews. For both the face-to-face and

phone interviews, the interview session began with the review of an information sheet about the study (mailed to phone-interview subjects; subjects had gone through the full informed consent process at intake). Subjects providing urine samples received $50 to complete the interview, all other subjects interviewed received $45. This level of reimbursement is commonly used in the follow-up phase of DARC studies.

*OBIS data.* We obtained reincarceration information on the entire sample using the Offender-Based Information System (OBIS), a database maintained by the California Department of Corrections, which includes information on admissions to the state's prison system: name, CDC record number, age, sex, ethnicity, commitment offense, county of conviction, institution of commitment, admission date, release date, return to prison during parole, and other movement information while the person is in prison or under parole supervision.

*Urinalysis.* Due to cost considerations, we obtained urine samples from a randomly selected 20% of subjects interviewed in Los Angeles. Only one of the randomly selected subjects refused to give a sample. Using the EMIT process, samples were analyzed for amphetamines, barbiturates, benzodiazepines, cocaine metabolites, cannabinoids, methadone, opiates, phencyclidine, and propoxyphene. In addition, samples were analyzed for alcohol using gas chromatography. All positive results were confirmed using gas chromatography/mass spectrometry.

*Addiction Severity Index (ASI).* In our original proposal, we had planned to use ASI data collected by the treatment program. Unfortunately, despite our best efforts, we found the ASI data unusable due to extensive missing data and inconsistencies in the way the data were collected.

**Instruments**

Over the course of the study, we used five data collection instruments: (1) the locator form that all subjects in the study completed, (2) the study intake form completed by treatment participants approximately one month after program entry, (3) the pre-release form completed by

treatment participants just prior to their release from the program (approximately five months after completing the intake form), (4) the comparison group intake form completed by comparison group members during their incarceration, and (5) the outcome study interview form that was administered to both treatment and comparison subjects one-year after release.[3]

*Locator form.* The locator form obtained information needed to locate subjects for follow-up interviews. The form was used to record a subject's driver's license number; Social Security number; California Department of Corrections number; names, addresses, and phone numbers of immediate relatives and of two unrelated friends; date and place of birth; areas of town the subject frequented (particularly if the subject had a history of homelessness); and name and address of the community residential program the subject planned to attend after release (or other location to which the subject was planning to be released).

*Treatment group study intake form.* We used this form to obtain background information on the Forever Free subjects, including primary substance of abuse, date of birth, previous employment, 1996 income, education, criminal history, relationship status, previous residence type, and zip code. In addition, we collected information on the subjects' relationship with their children (prior to incarceration and during incarceration), drug and alcohol use history, current tobacco use, substance abuse treatment history, therapeutic alliance with their counselors, group identification with fellow clients, treatment motivation, and psychological status.

*Treatment group pre-release form.* The pre-release form was designed to collect end-of-treatment information on clients' therapeutic alliance with their counselors, psychological status,

[3] These instruments are available from the authors.

drug-related locus of control,[4] release date, and post-release treatment plans (residential treatment, other type of treatment, or none).

*Comparison group intake form.* Using the comparison group intake form, we collected background information on the comparison subjects, including primary substance of abuse, date of birth, previous employment, income, education, criminal history, relationship status, number of children, and drug and alcohol use history. Owing to limited funds for the evaluation, much less baseline information was collected from the women in the comparison group than from those in the treatment group.

*Outcome study interview form.* We used this form for the 12-month follow-up interview to update background information on the subjects, including primary substance of abuse, date of birth, current employment, income, education, criminal activities since release, relationship status, residence type, and zip code. In addition, we collected information on the subjects' relationship with their children, drug and alcohol use since release, tobacco use, substance abuse treatment since release, vocational training received since release, services needed and received, social support, current treatment motivation, psychological status, and drug-related locus of control. (Table 2, below, contains a listing of the outcome domains and instruments).

[4] The Drug-Related Locus of Control scale was added to the instrument package after administration of the intake form.

**Table 2**
**Outcome instrument: Measurement domains and instruments used**

| Domain | Instrument/Data Base |
|---|---|
| Personal History/Background | DARC Standard Background Instrument<br>DARC Crime Instrument<br>DARC Community Services Instrument |
| Service Needs/Services Received during Parole | DARC Needs and Services Instrument |
| Substance Abuse Treatment Satisfaction | DARC Treatment Satisfaction Instrument |
| Outcome: Parenting/Child Custody | Drug Abuse Treatment Outcome Study (DATOS) Children Instrument[1]<br>DATOS Children: Contact and Visiting Instrument<br>DATOS Children: Parenting Instrument |
| Outcome: Social-psychological Functioning | Texas Christian University (TCU) Psychological Functioning Scales[2]<br>TCU Treatment Motivation Scales<br>DARC Social Support Instrument<br>DARC Drug-Related Locus of Control Scale |
| Outcome: Substance Use | DARC Brief Drug History Grid<br>PharmChem Urinalysis |
| Outcome: Substance Abuse Treatment during Parole | DARC Treatment History Form |
| Outcome: Employment | DARC Employment Questionnaire |
| Outcome: Recidivism | DARC Arrest History Recording Form<br>California Department of Corrections, Offender-Based Information System |

[1] U. S. Department of Health and Human Services, 2000.
[2] Simpson, et al., 1992a&b.

**Data Analysis**

The data presented in the descriptive tables were analyzed using SAS and SPSS chi-square and *t*-test procedures. We used logistic regression (SPSS, release 10.1, logistic regression procedure) to control for participants' baseline characteristics (number of lifetime arrests, age, ethnicity, drug and alcohol use in the 30 days before incarceration, primary drug, first age of drug use, ever inject drugs, education, and treatment/control group status) in analyzing all participants' (N=180) reincarceration, drug use, alcohol use, and employment status at follow up. Because we had more background information at baseline on the treatment group (N=101), we used additional variables (baseline scores for self-esteem, desire for help, drug-related locus of control, and confident

collaboration) in our logistic regression analysis with this group. We also added treatment attendance during parole to our analysis of employment because preliminary analysis showed that it was key to predicting employment success. The effect of treatment on time to reincarceration was assessed using Cox regression analysis to compute adjusted risk ratios. This procedure allowed us the determine the effect of possible covariates on the probability of survival – time to first reincarceration. The following covariates were entered into a series of Cox regression models: lifetime arrests, age, ethnicity, drug use prior to incarceration, primary drug, ever injected in lifetime, education, and age of first drug use. Step-wise regression eliminated most as having non-significant effects on the probability of survival. The resulting predictor variables were submitted to further analysis. Survival analysis was performed using the Kaplan-Meier log-rank statistic. All Cox regression and Kaplan-Meier analyses were performed using SPSS for Windows, release 10.1.

## Findings

The results of the outcome evaluation of the Forever Free program cover the following topics: a description of study participants, a comparison of outcomes for Forever Free participants and the comparison group, and an analysis of outcome predictors for all subjects and for Forever Free participants using logistic regression to control for background characteristics.

### Study Participants

*Characteristics*

In many respects, the study sample matches the description of women offenders found in the literature, namely that of a poor, ethnically diverse group of undereducated women working in low paid jobs. Table 3 contains basic demographic information on the Forever Free treatment participants and the comparison group. Differences between the treatment and comparison group

did not reach statistical significance (see Table 3) with the exception of injection history and prior corrections drug treatment.

Over one-third of the treatment group (37%) reported that they had held a sales/service job when last employed, while 15% said that they had held some kind of semi-skilled job. Almost 30% said that they had held an unskilled job when last employed and 10% reported that they had never worked. On average, the women reported a 1996 household income in the $15,000 to $19,000 range.

Fifty-eight percent of the treatment sample reported that their present incarceration was for a possession offense and an additional 4% reported other drug offenses. The women had a long history of involvement with the criminal justice system. The women averaged 15 lifetime arrests (range 1 to 150), with a mean of two arrests before the age of 18 and a mean of one arrest before they first began using illegal drugs. They had an average of eight lifetime convictions and had been incarcerated for these convictions a mean of eight times. Women were first incarcerated at a mean age of 21 years.

Over half (56%) of the treatment group currently had a partner or spouse. Of these, over half (53%) had a partner/spouse who used illegal drugs during their relationship. Twenty-one percent of these women had a partner who had been in drug treatment during their relationship.

Regarding their living situation, over half (52%) of the treatment sample had lived in a rented house or apartment before their incarceration. Sixteen percent (16%) had lived in their parents' home. Somewhat less than half (47%) had lived with someone who used illegal drugs.

*Program Participation*

Of the 119 women in the treatment group, only four did not graduate from the program. All four were removed from the program by the prison administration for disciplinary reasons. The remaining 115 graduated from the program. Of the 101 treatment group women we contacted for follow up, 47 (46.5%) attended community residential treatment during parole.

**Table 3**
***Demographic Information on Treatment and Comparison Subjects (Intake Sample)***

| | Treatment (N=119) | SD | Comparison (N=95) | SD |
|---|---|---|---|---|
| Age[1] | | | | |
| Age in years (mean) | 35 | 7.53 | 34 | 7.95 |
| Ethnicity (percent)[2] | | | | |
| White | 36 | | 31 | |
| African American | 31 | | 38 | |
| Latina | 24 | | 19 | |
| Other | 9 | | 12 | |
| Educational Achievement (percent)[3] | | | | |
| Less than a high school grad | 37 | | 43 | |
| High school grad/GED | 26 | | 32 | |
| Trade school | 21 | | 10 | |
| Some college | 12 | | 7 | |
| Other | 4 | | 8 | |
| Arrest/Incarceration History (mean)[1] | | | | |
| Lifetime arrests | 15 | 16.38 | 17 | 18.75 |
| Mean age first arrested | 19 | 6.43 | 18 | 5.96 |
| Lifetime incarcerations | 8 | 7.06 | 9 | 8.00 |
| Controlling Case (percent)[2] | | | | |
| Drug offenses | 62 | | 64 | |
| Robbery, burglary, forgery | 27 | | 26 | |
| Assault | 4 | | 4 | |
| Other | 7 | | 6 | |
| Prior corrections drug treatment* | | | | |
| Received treatment during past incarcerations (% yes) | 25 | | 39 | |
| Primary Drug of Abuse (percent)[2] | | | | |
| Cocaine/crack | 36 | | 54 | |
| Amphetamine/methamphetamine | 28 | | 16 | |
| Heroin and other opiates | 25 | | 21 | |
| Alcohol | 6 | | 6 | |
| Other drugs | 4 | | 3 | |
| Injection History (% yes) * | | | | |
| Ever injected in lifetime | 64 | | 50 | |

1. Independent samples t-test, differences were *non*-significant at $p = .05$ level.
2. Fishers Exact Test (2-Tail), differences were *non*-significant at $p = .05$ level.
3. Chi Square, differences were *non*-significant at $p = .05$ level.
* Fishers Exact Test (2-Tail), $p < .05$.

**Parole Performance**

The self-report data shown in Tables 4 and 5 reveals that by one-year post-release, significantly fewer Forever Free participants were arrested or convicted during parole. In addition, a lower percentage of Forever Free women were incarcerated than the comparison group, but this difference did not reach significance.

**Table 4**
***Percent arrested, convicted, or incarcerated since release from CIW (self-report)***

| Variable | Forever Free (n=101) | Comparison (n=79) | *p* |
|---|---|---|---|
| Arrested since CIW release | 49.5 | 74.68 | 0.001 |
| Convicted since CIW release | 50.5 | 70.89 | 0.005 |
| Incarcerated since CIW release | 49.5 | 62.03 | 0.093 |

(Chi-square)

**Table 5**
***Arrests, convictions, and incarcerations since release from CIW (self-report)***

| Variable | Forever Free (n=101) | | Comparison (n=79) | | |
|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | *p* |
| Number of times arrested | 0.76 | 1.02 | 1.43 | 1.23 | 0.00 |
| Number of times convicted | 0.79 | 1.28 | 1.14 | 1.01 | 0.04 |
| Number of months incarcerated | 4.04 | 5.61 | 5.15 | 5.65 | 0.19 |

(Independent samples *t*-test)

Figure 1 shows the effect that residential treatment within prison and after release had on incarceration one year after release. As treatment exposure increased from no residential treatment in prison or on parole (Comparison, no residential treatment) to treatment both in prison and during parole (Forever Free, residential treatment), reincarceration significantly decreased. (chi-square, $p = .006$).

**Figure 1**
***Percent incarcerated at follow up by treatment status (self-report)***

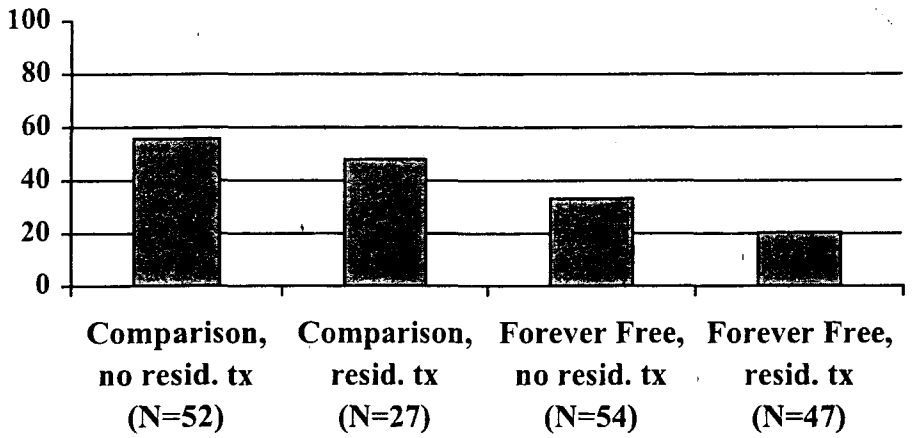



Table 6 describes the (self-reported) most serious charges for those convicted. The comparison group engaged in more violent crime and prostitution, while the Forever Free group engaged in a slightly larger percentage of probation violations and theft-related crimes ($p < .05$), but the chi-square method is problematic because two cells have a count of zero.

**Table 6**
***Of those convicted, most serious conviction charge since release from CIW (percent)***

| Variable | Forever Free (n=51) | Comparison (n=54) |
|---|---|---|
| Assault | 0.00 | 9.26 |
| Drug offense | 45.10 | 42.59 |
| Parole/probation violations | 23.53 | 16.67 |
| Prostitution | 0.00 | 9.26 |
| Shoplifting, theft, burglary, forgery | 21.57 | 18.52 |

Using CDC data, we performed a Cox regression analysis to assess to effectiveness of Forever Free (the group variable) in delaying or preventing reincarceration while adjusting for those background characteristics found to have a significant effect in a stepwise regression analysis of reincarceration: age, methamphetamine as primary drug, and ever injected in lifetime. Cox regression showed two variables influencing the time to reincarceration: age and group status (Table 7).

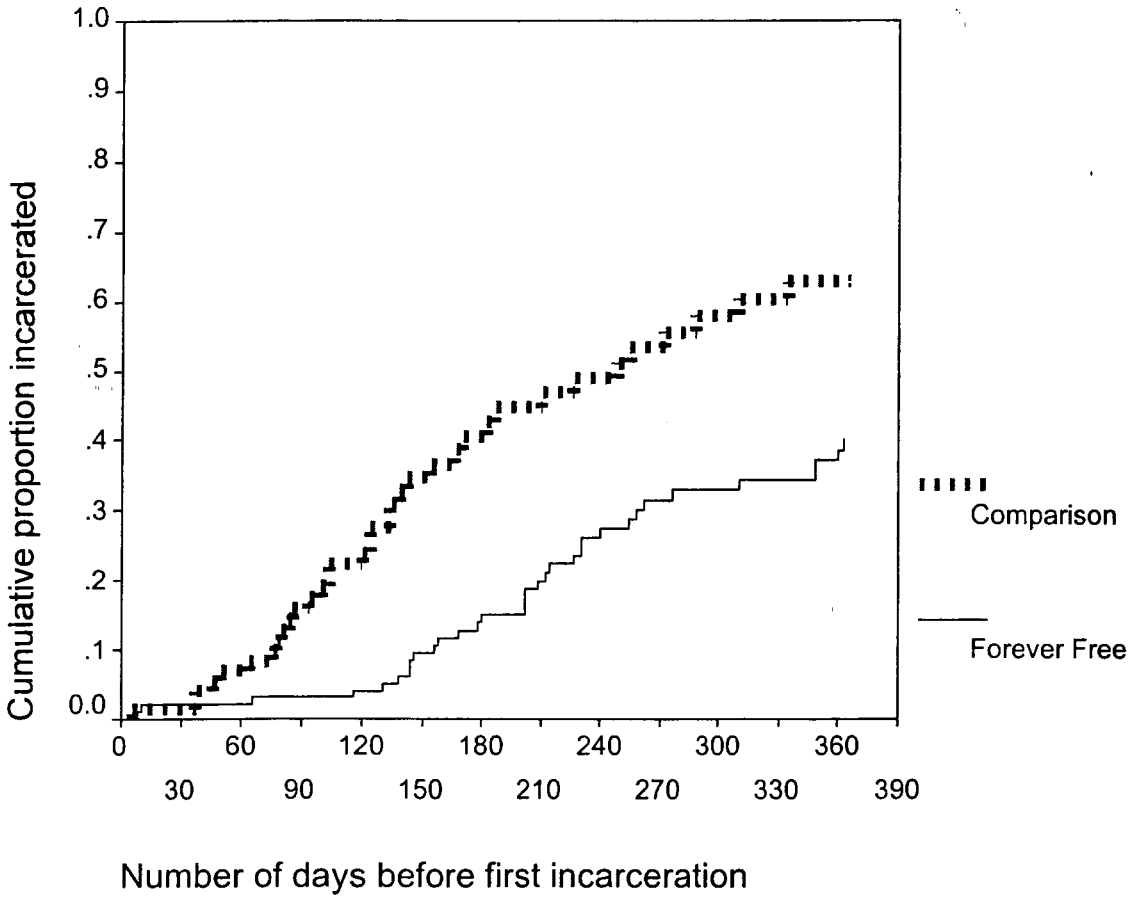
**Table 7**
***Cox regression results: Predictors of time to reincarceration[1] during one-year post release for all subjects***

| | β Coefficient | Standard Error | *p*-value | Odds Ratio (OR) | 95% Confidence Interval of OR |
|---|---|---|---|---|---|
| Group status (treatment) | 0.44 | 0.25 | .08 | 1.55 | (0.95–2.53) |
| Age[2] | -0.04 | 0.02 | .04 | 0.96 | (0.92–1.00) |
| Methamphetamine primary drug | -0.52 | 0.32 | .10 | 0.60 | (0.32–1.11) |
| Ever inject | -0.13 | 0.26 | .63 | 0.88 | (0.53–1.46) |

Overall score: $x^2 = 12.32$, d.f. = 3, p = .015.
[1] Reincarceration data obtained from the Offender Based Information System, California Department of Corrections.
[2] Continuous variable

We present a Kaplan-Meier survival hazard plot of days to first incarceration in Figure 2. The control group had a mean of 261 days to first incarceration, while the treatment-exposed group had a mean of 312 days (all subjects who had not been incarcerated by 365 days after release were assigned scores of 366 days). The Kaplan-Meier survival hazard curves were significantly different for the Forever Free versus comparison group, with the Forever Free group having significantly delayed reincarceration (logrank $p < .05$).

**Figure 2**
**Survival analysis: Days to first incarceration**




**Drug Use**

Table 8 contains the percent of subjects reporting any drug use since release. A significantly smaller percentage of Forever Free participants than comparison group members engaged in the use of any drug since parole. In addition, significantly fewer used alcohol. With the exception of alcohol and crack use, differences in use between the groups did not reach significance for the individual illicit drug categories. We also examined drug use in the 30 days prior to the follow-up interview. Again, Forever Free women had a significantly lower level of drug use.

**Table 8**
***Self-reported drug use since release from CIW (percent)***

| Variable | Forever Free (n=101) | Comparison (n=79) | *p* |
|---|---|---|---|
| Any drug | 50.50 | 76.54 | 0.001 |
| Alcohol | 49.50 | 68.35 | 0.01 |
| Amphetamines | 17.82 | 16.46 | 0.81 |
| Barbiturates | 3.96 | 2.53 | 0.60 |
| Cocaine | 4.95 | 11.39 | 0.10 |
| Crack | 24.75 | 54.43 | 0.00 |
| Heroin | 20.00 | 18.99 | 0.87 |
| Other opiates | 3.96 | 5.06 | 0.72 |
| Marijuana | 21.78 | 31.65 | 0.14 |
| PCP | 1.98 | 5.06 | 0.25 |
| Tranquilizers | 5.94 | 3.80 | 0.51 |
| Any drug in the 30 days prior to the 12-month follow-up interview | 7.92 | 32.10 | 0.001 |

(Chi-square; because participants can report multiple drug use, each contrast is separate.)

Figure 3 shows that Forever Free women had lower drug use than comparison women (chi square, $p = .001$), but it also shows that drug use was higher among those who attended residential treatment. Our data do not contain information on the timing of the drug use and treatment, but one interpretation is that many of those who relapsed during parole sought out treatment (perhaps after testing positive for drugs and at the insistence of a parole officer). This interpretation may be supported by Table 9 in which we analyzed drug use by treatment attendance to see what effect having any treatment during release had for the full sample. We found that attending treatment for any length of time during the follow up period cut drug use in the 30 days before the follow up interview by half (Table 9).

**Figure 3**
***Percent using any drugs since release from CIW by treatment status (self-report)***

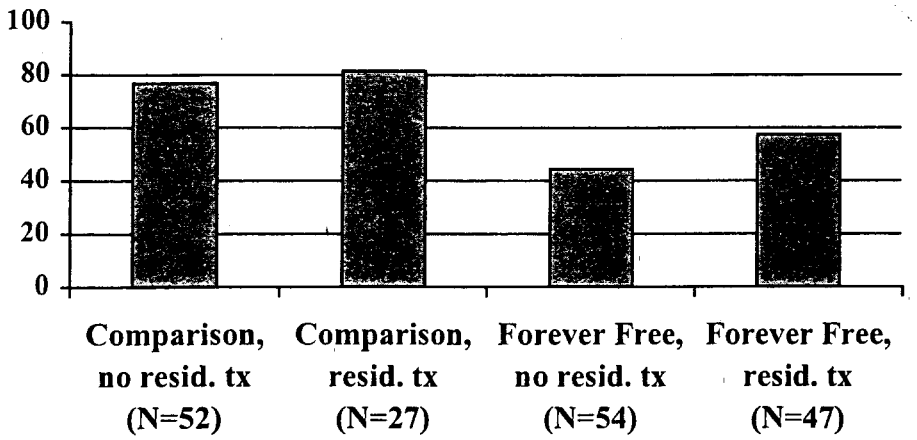



**Table 9**
***Drug use 30 days before follow-up by treatment attendance during parole (percent)***

| Variable | Attended Treatment (n=123) | Did Not Attend Treatment (n=57) | *p* |
|---|---|---|---|
| Used drugs in the 30 days before the follow up interview | 14.6 | 28.1 | 0.04 |

(Chi square, likelihood ratio)

Relative to Forever Free women, comparison women reported that they spent significantly more money on drugs in the 30 days before the follow-up interview (Table 10). In addition, comparison women reported that they spent more money on alcohol during the same time period; however, this difference was not statistically significant.

Due to budget constraints and practical limitations (not being able to obtain urine samples from incarcerated study participants), we obtained urine samples from 35 randomly selected clients in Los Angeles county only (19 samples from Forever Free participants, 16 samples from comparison group members). Of those, 31.6% of Forever Free and 56.3% of comparison group members were positive; however, this difference did not meet statistical significance ($p$ =.14). Regardless of group membership, the study participants apparently were truthful about their drug

use. Of the 15 with positive drug tests, 14 reported using in the month before the interview, and of the 20 with negative drug tests, 19 reported no drug use during the month before the interview.

**Table 10**
***Money spent on drugs/alcohol in the past 30 days***

| Variable | Forever Free (n=101) | | Comparison (n=79) | | |
|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | *p* |
| Drugs | $66.70 | 577.35 | $548.88 | 2179.75 | 0.04 |
| Alcohol | $5.85 | 21.33 | $20.58 | 80.22 | 0.08 |

(Independent samples *t*-test)

There were no statistically significant differences between the Forever Free and comparison groups in the percentage that injected any drug since release or in the 30 days before the follow-up interview (Table 11). About one-fifth of each group injected a drug sometime since release; however, in the 30 days before the follow up interview, only about 6% injected a drug.

**Table 11**
***Injection behavior (percent)***

| Variable | Forever Free (n=101) | Comparison (n=79) | *p* |
|---|---|---|---|
| Injected any drugs since release | 20.79 | 16.46 | 0.46 |
| Injected any drugs in the 30 days before the follow-up interview | 5.94 | 6.17 | 0.95 |

(Chi-square)

Women were not treated for smoking during their time in the Forever Free program. (In fact, participants were given smoke breaks during the treatment day.) Both Forever Free and comparison women had a high rate of smoking (nearly 80%, Table 12) and smoked approximately the same number of cigarettes in the 24 hours prior to the interview. Nearly eight in ten women in both the treatment and comparison groups reported that they wanted to try a stop-smoking program.

**Table 12**
***Tobacco use***

| Variable | Forever Free | Comparison | *p* |
|---|---|---|---|
| Percent who currently smoke cigarettes (n=180)[1] | 78.22 | 79.75 | 0.80 |
| Of those who smoke (n=142), mean (SD) number of cigarettes smoked in 24 hours prior to interview[2] | 13.52 (9.97) | 14.94 (11.29) | 0.43 |
| Of those who smoke (n=142), percent who want to try a stop-smoking program[1] | 78.48 | 82.54 | 0.54 |

[1]Chi-square, likelihood ratio
[2]Independent samples *t*-test

**Employment**

Table 13 describes employment for the women who were not incarcerated at the time of the follow-up interview. Significantly more Forever Free participants were employed at the time of the follow-up interview. Of those working, there were no statistical differences between the groups in mean hours worked per week or in mean weekly take home pay. Take home pay for both groups averaged less than $8 per hour.

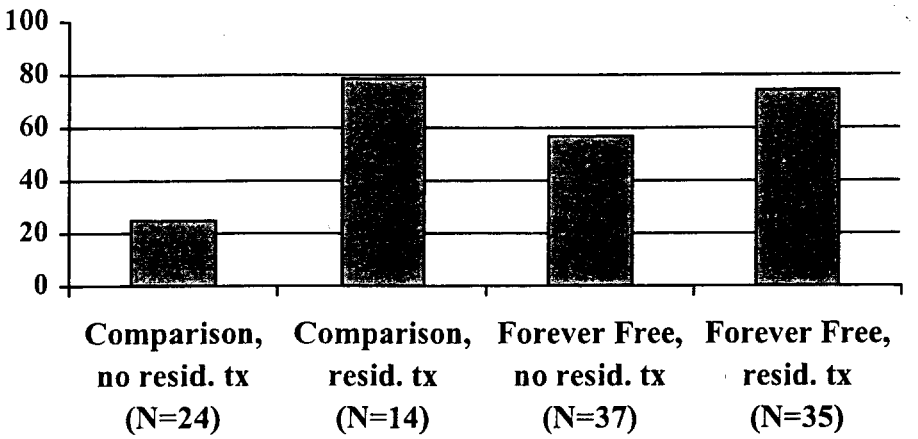
**Table 13**
***Employment variables for women not incarcerated at the time of the follow-up interview***

| Variable | Forever Free (n=72) | Comparison (n=38) | *p* |
|---|---|---|---|
| Employed at time of interview[1] | 65.3% | 44.7% | .04 |
| For those employed: | N=46 | N=17 | |
| Mean (SD) hours worked per week[2] | 38.6 (9.1) | 38.2 (6.4) | .87 |
| Mean (SD) weekly take home pay[2] | $299.80 (181.19) | $256.24 (86.01) | .21 |

[1] Chi square, likelihood ratio
[2] Independent samples *t*-test

Figure 4 shows that residential treatment during parole was key to improving chances of being employed for both Forever Free and comparison subjects (chi square, $p = .001$). (Subjects who were incarcerated at the time of the follow up interview, and therefore could not work, were excluded from the analysis.)

**Figure 4**
***Percent employed at follow up by treatment status (self-report)***




## Psychological Functioning

Table 14 shows that psychological functioning (anxiety, depression, self-esteem) improved significantly for Forever Free participants during the period that they were attending the Forever Free program. At follow up, the psychological functioning (anxiety, depression, self-esteem, drug-related locus of control) of Forever Free participants did not change from pre-release, with the exception of a significant increase in depression (Table 15). (These measures were not available for the comparison group at intake and pre-release.)

**Table 14**
***Treatment group intake and pre-release comparisons of psychological functioning scores: Paired t-tests***

| | Intake | | Pre-release | |
|---|---|---|---|---|
| **Subscale** | **Mean** | **SD** | **Mean** | **SD** |
| Anxiety (N=92) | 3.25 | 1.48 | 2.78** | 1.36 |
| Depression (N=92) | 2.95 | 1.31 | 2.26** | 1.13 |
| Self-Esteem (N=91) | 4.76 | 1.58 | 5.87** | 1.12 |

** Significant at $p < 0.01$.
Range for all scales was 1 to 7.

**Table 15**
***Treatment group pre-release and one-year follow up comparisons of psychological functioning scores: Paired t-tests***

| | Pre-release | | 1-Yr Follow Up | |
|---|---|---|---|---|
| **Subscale** | **Mean** | **SD** | **Mean** | **SD** |
| Anxiety (N=80) | 2.60[1] | 1.31 | 2.53 | 1.55 |
| Depression (N=80) | 2.08[1] | 1.03 | 2.40* | 1.40 |
| Self-Esteem (N=79) | 5.99[1] | .99 | 5.77 | 1.52 |
| Drug-related Locus of Control (N=77) | 1.19[2] | .17 | 1.18 | .22 |

* Significant at $p < 0.05$.
[1]Range = 1 to 7.
[2]Range = 1 to 2.

At follow up, Forever Free participants had significantly better psychological functioning than the comparison group (Table 16). The comparison scores appear to be more similar to Forever Free participants' scores at intake. Forever Free participants had a more internal drug-related locus of control (i.e., felt more in control of their drug-use behaviors) than did their counterparts in the comparison group.

**Table 16**
***Psychological functioning at follow up***

| **Variable** | **Forever Free (n=101)** | | **Comparison (n=79)** | | |
|---|---|---|---|---|---|
| | **Mean** | **SD** | **Mean** | **SD** | ***p*** |
| Anxiety | 2.63[1] | 1.53 | 3.76 | 1.66 | 0.00 |
| Depression | 2.45[1] | 1.36 | 3.56 | 1.40 | 0.00 |
| Self-Esteem | 5.65[1] | 1.56 | 4.55 | 1.69 | 0.00 |
| Drug related locus of control | 1.20[2] | .21 | 1.36 | .27 | 0.00 |

(Independent samples *t*-test) [1]Range = 1 to 7.
[2]Range = 1 to 2.

**Treatment Motivation and Treatment Attendance**

Table 17 describes treatment motivation at follow up. In contrast to the treatment group, the comparison group had significantly higher mean scores for problem recognition and desire for help (i.e., felt that drugs were a greater problem and had a greater desire for help). We do not report on the third treatment motivation scale, treatment readiness, because the nature of the items contained

in that scale made it appropriate only for those in treatment at the time of the follow-up interview (N=15).

**Table 17**
***Treatment motivation***

| Variable | Forever Free (n=101) | | Comparison (n=79) | | |
|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | *p* |
| Problem recognition | 3.08[1] | 2.13 | 4.60 | 2.01 | 0.00 |
| Desire for help | 4.80[1] | 1.45 | 5.67 | 1.27 | 0.00 |

(Independent samples *t*-test) [1]Range = 1 to 7.

We ran two analyses to gain some insight into the relationship between treatment motivation and treatment received during the one-year follow-up period and between treatment motivation and recent drug use. As seen in Table 18, those who attended treatment (including self-help and sober living) during follow up had higher mean scores on the Desire for Help subscale than those who did not attend (although this difference does not reach statistical significance). Also, those who used drugs in the 30 days prior to the follow-up interview had significantly higher problem recognition and desire for help scores. However, those with higher desire for help scores at follow up were more likely to have entered treatment during parole.

**Table 18**
***Treatment motivation by treatment attendance during the one-year follow up period and treatment motivation by drug use during the 30-days prior to interview***

| | Problem recognition score | | Desire for help score | |
|---|---|---|---|---|
| | Mean | SD | Mean | SD |
| Attended Treatment | | | | |
| Yes (n=123) | 3.69 | 2.13 | 5.31[1] | 1.30 |
| No (n=57) | 3.88 | 2.37 | 4.90 | 1.67 |
| Used Drugs in 30 Days before Interview | | | | |
| Yes (n=34) | 5.30** | 1.59 | 6.07** | .84 |
| No (n=146) | 3.39 | 2.17 | 4.98 | 1.47 |

(Independent samples *t*-test)
[1] p = .07
** p < .01

**Relationships with Children**

In striking similarity to the Bureau of Justice Statistics' (1994) national sample of women in prison, the eight in ten (83.3%) women in the study had children and seven in ten (69.4%) had children under 18 years old. Of those with minor children, 54.4% had legal custody of at least some of their children. In contrast to the comparison group, a larger percentage of Forever Free women had legal custody of all their children (see Table 19), although this difference was not statistically significant ($p = .075$). We found significant differences between the Forever Free and comparison groups in children's living situations. Forever Free women were more likely to have a child living with them, while comparison women were more likely to have a child living with the child's grandparent.

**Table 19**
***Children: Custody status and living situation***

| | Forever Free (N=101) | Comparison (N=79) |
|---|---|---|
| Have children (% yes) | 83.2 | 83.5 |
| Have minor children (% yes) | 64.4 | 75.9 |
| Of those with minor children, custody status (%) | (N=65) | (N=60) |
| Don't have legal custody | 40.0 | 51.7 |
| Have legal custody of some | 12.3 | 20.0 |
| Have legal custody of all | 47.7 | 28.3 |
| Of those with minor children, current living situation (%)[1] | | |
| With respondent | 47.7 | 18.3** |
| With father | 15.4 | 26.7 |
| With grandparent | 27.7 | 48.3* |
| With other relatives | 27.7 | 35.0 |
| In foster care | 9.2 | 13.3 |
| In another situation | 9.2 | 15.0 |

[1] Columns add up to more than 100% because respondents may have children in various living situations, and, therefore, each contrast is separate.
(Chi-square)
* $p < .05$
** $p < .01$

Unlike the general population, women offenders with legal custody of children may or may not have their children living with them. A woman often retains legal custody of a child while in prison and, once out, may not have the child immediately returned to her by the family member caring for the child. Also, a woman may have a child living with her without legal custody, perhaps because both she and the child are living with the child's grandmother who is the legal custodian of the child. Consequently, we reported statistics on custody and "living with" in Table 19.

We asked mothers of minor children who had spent at least two months in the community about their parenting activities in the year since release. We found no difference between the groups in amount of time spent on leisure activities away from the home, such as picnics, movies, or sporting events (Table 20). However, Forever Free women spent significantly more time with their children at home working on a project or playing together, helping a child with reading or homework, and eating meals together. This is most likely related to the greater proportion of children living with their mothers in the Forever Free group. In addition, we asked mothers of minor children to self-rate their parenting. Forever Free women rated themselves as doing well more than twice as often as the comparison group. (Women in custody at the time of interview were not asked to rate themselves.)

**Table 20**
***Parenting activities (percent)***[1]

| | Forever Free (N=54) | Comparison (N=47) |
|---|---|---|
| Spend time with child in leisure activities such as picnics, movies, sports | | |
| Not at all | 17.0 | 12.8 |
| Less than once a week | 17.0 | 34.0 |
| At least once a week | 41.5 | 36.2 |
| Almost daily | 24.5 | 17.0 |
| Spend time with child at home working on a project or playing together | | |
| Not at all | 16.7 | 23.4 |
| Less than once a week | 33.3 | 66.7 |
| At least once a week | 13.0 | 21.3 |
| Almost daily | 59.3* | 29.8 |
| Spend time with child helping with reading or homework | | |
| Not at all | 21.2 | 26.1 |
| Less than once a week | 13.5 | 32.6 |
| At least once a week | 7.7 | 10.9 |
| Almost daily | 57.7* | 30.4 |
| Spend time with child eating meals together | | |
| Not at all | 18.5 | 19.1 |
| Less than once a week | 5.6 | 21.3 |
| At least once a week | 7.4 | 19.1 |
| Almost daily | 68.5* | 40.4 |
| Self-rating of how well doing as a parent[2] | (N=63) | (N=58) |
| Incarcerated at the time of interview | 30.2 | 56.9 |
| Poor | 7.9 | 10.3 |
| Fair | 15.9 | 10.3 |
| Well | 46.0* | 22.4 |

[1] Analysis limited to women with minor children who had at least 2 months of community time
[2] Analysis included all women with minor children
(Chi-square)
* $p < .05$

**Services Needed and Received During Parole**

Figure 5 shows the top service needs of the women in the study (services needed during parole by 40% or more of Forever Free women contrasted against the needs of the women in the

comparison group). In contrast to Forever Free women, the women in the comparison group generally had greater service needs. (See Table A1 in the Appendix for chi square analysis). Figure 6 shows the percentages of women who received a service. Although their service needs were higher, smaller percentages of comparison women than Forever Free women received the services they needed.

Tables A1 and A2 (in Appendix A) show that comparison group women generally had a greater need for services during parole, but received services at a lower rate than did Forever Free participants. Table A3 (in Appendix A) shows the percentages of service need and service receipt for the combined sample. The greatest unmet need for both groups was in the area of vocational and educational services, with nearly 40% reporting that they did not receive the vocational services they needed. Housing assistance was the second largest unmet need (35%), and relapse prevention (32%) and counseling for family (32%) were the third and fourth largest unmet needs.

**Figure 5. Services needed**

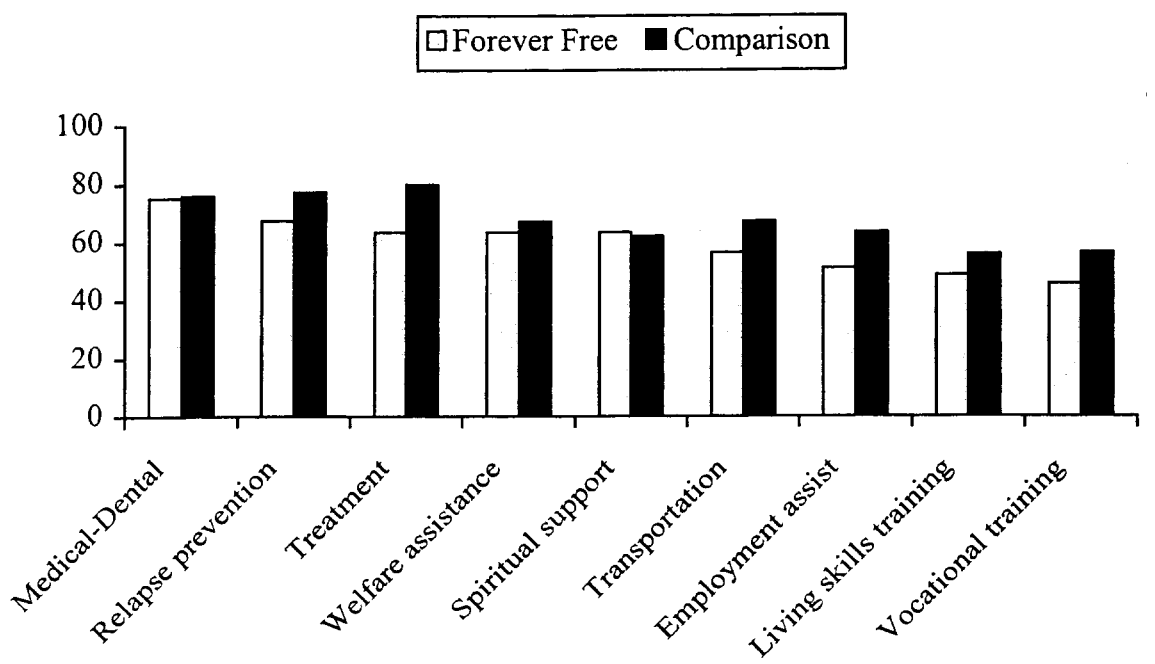
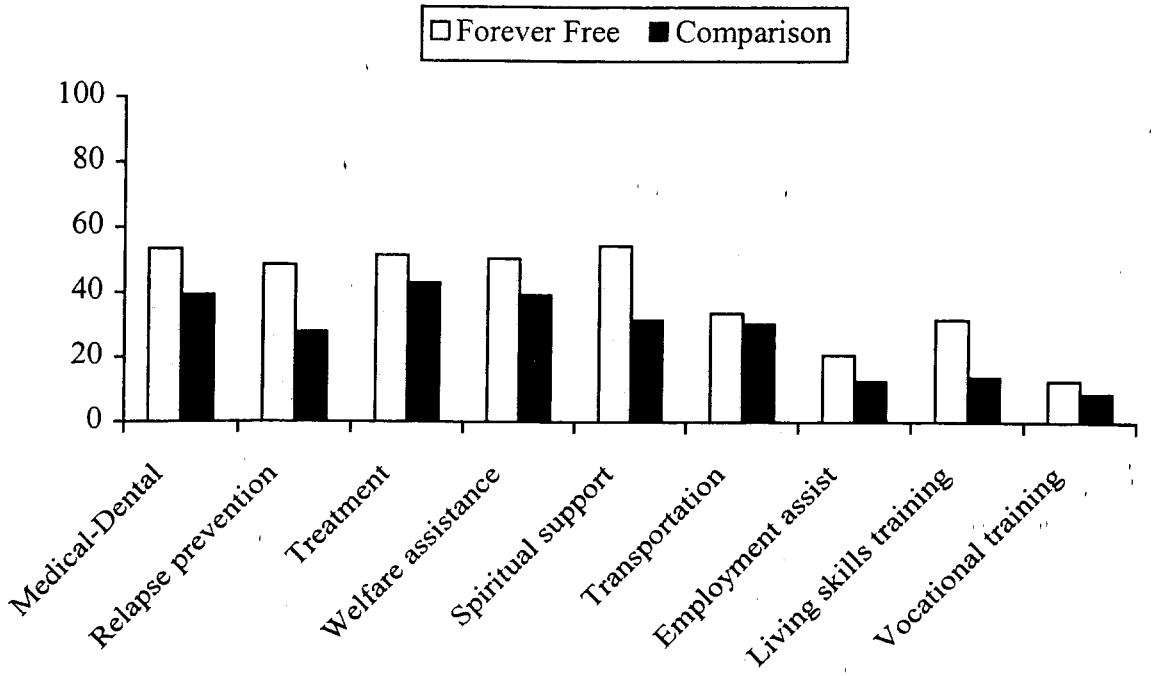


**Figure 6. Services received**



## Predictors of Outcome

For the three outcomes of greatest interest—reincarceration, drug/alcohol use, and employment, we used logistic regression to control for background variables. For each outcome variable, we first included all subjects with group status (Forever Free treatment vs. comparison) as one of the predictors. We then examined predictors of the outcome variable within the treatment group only using the additional background variables available for that group.

When we controlled for background variables, we found that no single variable predicted reincarceration (Table 21). However, the goodness-of-fit statistic shows that the overall model is sound and that the model variables, together, do predict reincarceration. However, Nagelkerke $R^2$ statistic, a pseudo-$R^2$ statistic, shows that the model accounted for only 17% of the variance, so other factors, not included here, may be more predictive.

**Table 21**
***Logistic regression results: Predictors of reincarceration[1] during one-year post release for all subjects***

| | β Coefficient | Standard Error | *p*-value | Odds Ratio (OR) | 95% Confidence Interval of OR |
|---|---|---|---|---|---|
| Group status (treatment) | -0.15 | 0.39 | .70 | 0.86 | (0.40–1.85) |
| Lifetime arrests[2] | 0.02 | 0.01 | .16 | 1.02 | (0.99–1.04) |
| Age[2] | -0.06 | 0.03 | .10 | 0.95 | (0.89–1.01) |
| African American[3] | -0.74 | 0.58 | .20 | 0.48 | (0.16–1.48) |
| Latina[3] | 0.10 | 0.57 | .86 | 1.10 | (0.36–3.36) |
| Drug use in the 30 days before incarceration | 0.02 | 0.48 | .97 | 1.02 | (0.39–2.62) |
| Alcohol primary drug[4] | -0.24 | 0.87 | .78 | 0.79 | (0.14–4.36) |
| Cocaine primary drug[4] | 0.18 | 0.58 | .76 | 1.19 | (0.39–3.70) |
| Methamphetamine primary drug[4] | -1.10 | 0.67 | .10 | 0.33 | (0.09–1.23) |
| Ever inject | -0.79 | 0.48 | .10 | 0.46 | (0.18–1.17) |
| Education | 0.04 | 0.39 | .92 | 1.04 | (0.48–2.26) |
| Age at first drug use[2] | 0.01 | 0.04 | .76 | 1.01 | (0.94–1.09) |

[1] Reincarceration data obtained from the Offender Based Information System, California Department of Corrections
[2] Continuous variable
[3] Versus White
[4] Versus heroin
Hosmer and Lemeshow test for goodness-of-fit $p = .557$, Nagelkerke $R^2 = .17$; $n = 151$.

Logistic regression analysis for the subsample of Forever Free participants included additional baseline variables not available for the full sample. Thus, not only were we able to control for demographic characteristics, but for differences among the Forever Free participants in psychological functioning (represented by the self-esteem variable), motivation (represented by the desire for help variable), drug-related locus of control, and therapeutic alliance (represented by the confident collaboration variable). No single baseline variable predicted reincarceration (Table 22), however, the goodness-of-fit statistic shows that the model overall is sound and accounts for approximately 28% of variance.

**Table 22**
***Logistic regression results: Predictors of reincarceration[1] during one-year post release for Forever Free participants***

| | β Coefficient | Standard Error | *p*-value | Odds Ratio (OR) | 95% Confidence Interval of OR |
|---|---|---|---|---|---|
| Lifetime arrests[2] | -0.02 | 0.02 | .35 | 0.98 | (0.94–1.02) |
| Age[2] | -0.07 | 0.05 | .12 | 0.93 | (0.85–1.02) |
| African American[3] | 0.04 | 0.89 | .97 | 1.04 | (0.18–5.88) |
| Latina[3] | 1.30 | 0.97 | .18 | 3.65 | (0.54–24.67) |
| Drug use in the 30 days before incarceration | 0.98 | 1.31 | .46 | 2.66 | (0.20–34.61) |
| Methamphetamine primary drug[4] | -0.41 | 0.83 | .62 | 0.66 | (0.13–3.35) |
| Education | 0.71 | 0.70 | .31 | 2.03 | (0.52–7.92) |
| Age at first drug use[2] | -0.08 | 0.07 | .27 | 0.92 | (0.80–1.07) |
| Self-esteem at intake[2] | 0.12 | 0.25 | .61 | 1.13 | (0.70–1.83) |
| Desire for help at intake[2] | 0.60 | 0.58 | .30 | 1.83 | (0.59–5.63) |
| Drug-related locus of control at pre-release[2] | -1.85 | 2.25 | .41 | 0.16 | (0.002–13.02) |
| Confident collaboration at intake[2] | -0.20 | 0.37 | .59 | .82 | (0.40–1.68) |

[1] Reincarceration data obtained from the Offender Based Information System, California Department of Corrections
[2] Continuous variable
[3] Versus White
[4] Versus heroin and cocaine
Hosmer and Lemeshow test for goodness-of-fit $p = .484$, Nagelkerke $R^2 = .28$; $n = 65$.

We next examined use of any illicit drug during the year following release for the full sample using logistic regression to control for baseline characteristics. We found that group status predicted drug use (Table 23), with Forever Free participants being significantly less likely to use. Older subjects were also significantly less likely to use drugs in the year following release. This model accounts for approximately 30% of variance.

**Table 23**
***Logistic regression results: Predictors of any illicit drug use during one-year post release for all subjects***

| | β Coefficient | Standard Error | *p*-value | Odds Ratio (OR) | 95% Confidence Interval of OR |
|---|---|---|---|---|---|
| Group status (treatment) | -1.25 | 0.44 | .004 | 0.29 | (0.12–0.68) |
| Lifetime arrests[2] | 0.01 | 0.01 | .39 | 1.01 | (0.99–1.03) |
| Age[2] | -0.10 | 0.03 | .004 | 0.91 | (0.85–0.97) |
| African American[3] | 0.15 | 0.63 | .81 | 1.16 | (0.34–3.99) |
| Latina[3] | -0.02 | 0.62 | .97 | 0.98 | (0.29–3.32) |
| Drug use in the 30 days before incarceration | 0.77 | 0.51 | .13 | 2.17 | (0.79–5.91) |
| Alcohol primary drug[4] | -1.61 | 0.98 | .10 | 0.20 | (0.03–1.35) |
| Cocaine primary drug[4] | 0.30 | 0.62 | .63 | 1.35 | (0.40–4.54) |
| Methamphetamine primary drug[4] | -0.81 | 0.67 | .23 | 0.44 | (0.12–1.65) |
| Ever inject | 0.41 | 0.54 | .45 | 1.50 | (0.52–4.32) |
| Education | -0.26 | 0.41 | .54 | 0.78 | (0.35–1.74) |
| Age at first drug use[2] | -0.02 | 0.04 | .68 | 0.98 | (0.91–1.06) |

[2] Continuous variable
[3] Versus White
[4] Versus heroin
Hosmer and Lemeshow test for goodness-of-fit $p = .911$, Nagelkerke $R^2 = .30$; $n = 158$.

Some Forever Free participants evidently understood that they were at risk of relapse. Those with higher scores at intake on the desire for help treatment motivation subscale were significantly more likely to use drugs in the year following release (Table 24). The model accounts for approximately 38% of variance.

**Table 24**
***Logistic regression results: Predictors of any illicit drug use during one-year post release for Forever Free participants***

| | β Coefficient | Standard Error | *p*-value | Odds Ratio (OR) | 95% Confidence Interval of OR |
|---|---|---|---|---|---|
| Lifetime arrests[2] | -0.02 | 0.02 | .37 | 0.98 | (0.94–1.02) |
| Age[2] | -0.06 | 0.05 | .25 | 0.94 | (0.85–1.05) |
| African American[3] | -0.002 | 1.00 | .99 | 0.99 | (0.14–7.08) |
| Latina[3] | -0.04 | 1.00 | .97 | 0.96 | (0.14–6.83) |
| Methamphetamine primary drug[4] | -0.15 | 0.92 | .87 | 0.86 | (0.14–5.18) |
| Ever inject | 0.16 | 0.92 | .86 | 1.18 | (0.20–7.06) |
| Education | 0.50 | 0.66 | .45 | 1.64 | (0.45–5.97) |
| Age at first drug use[2] | -0.001 | 0.07 | .99 | 0.99 | (0.87–1.15) |
| Self-esteem at intake[2] | -0.09 | 0.26 | .72 | 0.91 | (0.55–1.53) |
| Desire for help at intake[2] | 1.67 | 0.64 | .01 | 5.33 | (1.53–18.64) |
| Drug-related locus of control at pre-release[2] | 0.70 | 2.09 | .74 | 2.01 | (0.03–120.40) |
| Confident collaboration at intake[2] | 0.01 | 0.38 | .98 | 1.01 | (0.48–2.13) |

[2] Continuous variable
[3] Versus White
[4] Versus heroin and cocaine
Hosmer and Lemeshow test for goodness-of-fit $p = .736$, Nagelkerke $R^2 = .38$; $n = 67$.

When we examined alcohol use during the year following release for the full sample, the logistic regression analysis revealed that heroin users (in contrast to those reporting cocaine or alcohol as their primary drug) were more likely to use alcohol during the year after release. Also, age was marginally significant, with older participants less likely to use alcohol (Table 25). This model accounts for only 13% of variance, so other factors not included here may be more predictive.

**Table 25**
***Logistic regression results: Predictors of alcohol use during one-year post release for full sample***

| | β Coefficient | Standard Error | *p*-value | Odds Ratio (OR) | 95% Confidence Interval of OR |
|---|---|---|---|---|---|
| Group status (treatment) | -0.58 | 0.38 | .13 | 0.56 | (0.27–1.17) |
| Lifetime arrests[2] | 0.001 | 0.01 | .93 | 1.00 | (0.98–1.02) |
| Age[2] | -0.06 | 0.03 | .06 | 0.94 | (0.89–1.00) |
| African American[3] | 0.34 | 0.56 | .54 | 1.40 | (0.47–4.18) |
| Latina[3] | -0.41 | 0.56 | .47 | 0.67 | (0.22–2.00) |
| Drug use in the 30 days before incarceration | 0.27 | 0.46 | .55 | 1.32 | (0.54–3.22) |
| Alcohol primary drug[4] | -1.47 | 0.85 | .09 | 0.23 | (0.04–1.22) |
| Cocaine primary drug[4] | -1.19 | 0.57 | .04 | 0.31 | (0.10–0.92) |
| Methamphetamine primary drug[4] | -0.67 | 0.63 | .29 | 0.51 | (0.15–1.77) |
| Ever inject | -0.14 | 0.46 | .76 | 0.87 | (0.35–2.16) |
| Education | 0.14 | 0.38 | .72 | 1.15 | (0.56–2.41) |
| Age at first drug use[2] | -0.04 | 0.04 | .24 | 0.96 | (0.90–1.03) |

[2] Continuous variable
[3] Versus White
[4] Versus heroin
Hosmer and Lemeshow test for goodness-of-fit $p = .705$, Nagelkerke $R^2 = .13$; $n = 158$.

As with reincarceration, above, logistic regression analysis with the subsample of Forever Free participants (Table 26) revealed that no single baseline variable predicted alcohol use, however, the goodness-of-fit statistic shows that the model overall is sound. The model accounts for approximately 27% of variance.

**Table 26**
***Logistic regression results: Predictors of alcohol use during one-year post release for Forever Free participants***

| | β Coefficient | Standard Error | *p*-value | Odds Ratio (OR) | 95% Confidence Interval of OR |
|---|---|---|---|---|---|
| Lifetime arrests[2] | -0.02 | 0.02 | .43 | 0.98 | (0.94–1.03) |
| Age[2] | -0.05 | 0.05 | .33 | 0.95 | (0.87–1.05) |
| African American[3] | 0.89 | 0.92 | .33 | 2.44 | (0.40–14.81) |
| Latina[3] | 0.44 | 0.91 | .63 | 1.55 | (0.26–9.13) |
| Drug use in the 30 days before incarceration | 1.29 | 1.27 | .31 | 3.61 | (0.30–43.49) |
| Methamphetamine primary drug[4] | 0.49 | 0.81 | .55 | 1.63 | (0.33–7.99) |
| Ever inject | 0.72 | 0.87 | .40 | 2.06 | (0.38–11.22) |
| Education | 0.85 | 0.62 | .17 | 2.34 | (0.69–7.93) |
| Age at first drug use[2] | -0.03 | 0.06 | .60 | 0.97 | (0.86–1.10) |
| Self-esteem at intake[2] | -0.08 | 0.25 | .75 | 0.93 | (0.57–1.50) |
| Desire for help at intake[2] | 0.64 | 0.54 | .24 | 1.90 | (0.66–5.52) |
| Drug-related locus of control at pre-release[2] | -0.73 | 2.06 | .72 | 0.48 | (0.009–27.03) |
| Confident collaboration at intake[2] | -0.19 | 0.36 | .59 | 0.83 | (0.41–1.66) |

[2] Continuous variable
[3] Versus White
[4] Versus heroin and cocaine
Hosmer and Lemeshow test for goodness-of-fit $p = .383$, Nagelkerke $R^2 = .27$; $n = 67$.

For the full sample, the model did not converge when we included all background variables found in Tables 21, 23, and 25. We used step-wise logistic regression to produce a reduced model by determining those variables that produced the best goodness-of-fit statistics. Once we obtained the variables for the reduced model, we ran those variables in a standard logistic regression equation. In the reduced model, employment was predicted by group status (Table 27), with Forever Free participants significantly more likely to be employed at the time of the follow up interview. In addition, those with higher levels of education and methamphetamine users were significantly more likely to be employed. The model accounts for approximately 23% of variance.

**Table 27**
***Logistic regression results: Predictors of employment at follow up for full sample***

| | β Coefficient | Standard Error | *p*-value | Odds Ratio (OR) | 95% Confidence Interval of OR |
|---|---|---|---|---|---|
| Group status (treatment) | 0.81 | 0.37 | 0.03 | 2.26 | (1.09–4.65) |
| Arrests[2] | -0.02 | 0.02 | 0.12 | 0.98 | (0.95–1.01) |
| Methamphetamine primary drug[4] | 1.28 | 0.42 | 0.002 | 3.60 | (1.59–8.13) |
| Education | 0.95 | 0.38 | 0.01 | 2.58 | (1.23–5.40) |

[2] Continuous variable
[4] Versus heroin
Hosmer and Lemeshow test for goodness-of-fit $p = .487$, Nagelkerke $R^2 = .23$; $n = 166$.

Logistic regression results for the Forever Free participants only (Table 28) show that those who attended community residential treatment were significantly more likely to be employed. Those with higher confident collaboration scores (a measure of therapeutic alliance) were less likely to be employed at follow up. In addition, those with higher levels of education were also more likely to be employed at follow up. Also, African Americans, those who used drugs in the 30 days before incarceration, and those with more external drug-related locus of control scores (i.e., those who felt less in control of their drug-use behaviors) appeared to be *less* likely to be employed at follow up (significance is marginal on these items). Overall, the model accounted for approximately 49% of variance.

**Table 28**
***Logistic regression results: Predictors of employment at follow up for Forever Free participants***[1]

| | β Coefficient | Standard Error | *p*-value | Odds Ratio (OR) | 95% Confidence Interval of OR |
|---|---|---|---|---|---|
| Lifetime arrests[2] | -0.05 | 0.04 | .18 | 0.95 | (0.88–1.02) |
| Age[2] | 0.09 | 0.06 | .14 | 1.09 | (0.97–1.23) |
| African American[3] | -1.85 | 1.08 | .09 | 0.16 | (0.02–1.29) |
| Latina[3] | 0.16 | 1.02 | .88 | 1.17 | (0.16–8.60) |
| Drug use in the 30 days before incarceration | -2.09 | 1.23 | .09 | 0.12 | (0.01–1.38) |
| Methamphetamine primary drug[4] | 0.20 | 0.95 | .84 | 1.22 | (0.19–7.89) |
| Attended residential treatment on parole | 2.71 | 0.95 | .004 | 14.99 | (2.33–96.60) |
| Ever inject | 0.09 | 0.98 | .92 | 1.10 | (0.16–7.55) |
| Education | 1.92 | 0.86 | .03 | 6.84 | (1.28–36.73) |
| Age at first drug use[2] | 0.01 | 0.07 | .91 | 1.01 | (0.88–1.16) |
| Self-esteem at intake[2] | -0.09 | 0.29 | .74 | 0.91 | (0.52–1.60) |
| Desire for help at intake[2] | 0.40 | 0.60 | .50 | 1.49 | (0.46–4.80) |
| Drug-related locus of control at pre-release[2] | -4.53 | 2.68 | .09 | 0.01 | (0.001–2.08) |
| Confident collaboration at intake[2] | -1.08 | 0.48 | .02 | 0.34 | (0.13–0.87) |

[1] Treatment attendance variables added
[2] Continuous variable
[3] Versus White
[4] Versus heroin and cocaine
Hosmer and Lemeshow test for goodness-of-fit $p = .798$, Nagelkerke $R^2 = .49$; $n = 66$.

## Discussion and Recommendations

At the time of our study, Forever Free was an in-prison residential substance abuse treatment program with a cognitive-behavioral curriculum stressing relapse prevention. The curriculum was skill-based with special components for women, including self-esteem, anger management, assertiveness training, healthy versus disordered relationships, abuse, post-traumatic stress disorder, co-dependency, parenting, and sex and health. The program's objectives were to: (1) provide in-prison treatment with individualized case planning and linkages to community-based aftercare; (2) provide an in-prison program that includes a range of services to meet the psychosocial needs of participants, including counseling, group interaction, 12-step programs, educational workshops, relapse prevention training, and transition plans to refer clients to appropriate community aftercare; (3) reduce the number of in-prison disciplinary actions; (4) reduce substance abuse among participants; and (4) reduce recidivism. In order to achieve these objectives, the Forever Free program offered an array of services and programs, among them assessment, treatment planning, individual and group substance abuse counseling, parole planning, 12-step groups, and urine testing.

Our study demonstrates the effectiveness of the Forever Free program for women offenders. At the same time, we provide data on outcome domains of great importance to women, but not generally available in the literature (e.g., employment, relationships with children, and services needed and received). In addition, the logistic regression and Cox regression analyses contained in this report tease out the predictors of long-term success in many of the outcome domains while controlling for background characteristics. Below, we discuss our findings, present the limitations of the study, and provide recommendations for further research.

First, although the women in this study were not assigned to the treatment group and the comparison group randomly, the women who comprised the comparison group were essentially

similar in their background characteristics to the Forever Free participants in the study. We found no statistically significant baseline differences between the groups in age, ethnicity, arrest history, controlling case, or primary drug. The differences we did find (prior corrections drug treatment and a history of injecting drugs) favored the comparison group.

At follow up, our bivariate analysis showed that Forever Free women had significantly fewer arrests and convictions than did the comparison women. In addition, Kaplan-Meier survival analysis showed a significant difference between the groups in days to first reincarceration, with Forever Free women faring better. At six months after release (180 days), approximately 40% of the comparison group had been reincarcerated, while less than 15% of the Forever Free participants had been reincarcerated. At one year post-release, over 60% of the comparison women had been returned to CDC custody in contrast to approximately 40% of Forever Free participants. Controlling for background variables through Cox regression analysis, we found that age and group status were predictors of time to reincarceration, with older subjects and Forever Free participants having delayed reincarceration. When we controlled for background characteristics through logistic regression analysis, we did not find that group status (Forever Free participants vs. comparison participant) predicted reincarceration (as a yes/no variable). However, of the two analytic methods, the Cox regression analysis is the more sensitive measure. The logistic regression analysis for the full sample showed that no single baseline variable predicted reincarceration in the year following release and this was also true for the separate analysis of Forever Free participants only. A bivariate analysis for the full sample showed the effect that residential treatment within prison and after release had on reincarceration one year after release. As treatment exposure increased from no residential treatment at any time to treatment both in prison and during parole, reincarceration significantly decreased.

Overall, in contrast to the comparison women, Forever Free women engaged in significantly lower levels of drug use in the year since release and in the 30-day period prior to the follow up interview. This effect remained after we controlled for background characteristics using logistic regression. In addition, age predicted drug use in the logistic regression analysis, with younger subjects being more likely to engage in drug use in the year since release. Among the Forever Free participants, only desire for help predicted drug use in the logistic regression analysis. Forever Free women with higher desire for help scores at intake were five times more likely than those with lower scores to have used drugs by follow up. One explanation for this unusual finding is that those women with higher desire for help scores had more severe drug problems and were at higher risk for relapse. Unfortunately, we were unable to include Addition Severity Index scores in our analyses (see our Methods section), and perhaps the severity items that we used in the logistic regression analysis (age of first drug use, ever inject, drug use in the 30 days before incarceration, and primary drug) did not fully capture addiction severity.

Logistic regression analysis of the full sample showed that alcohol use in the year after release was predicted by younger age. Also, those who reported that cocaine was their primary drug were less likely to use alcohol in the year following release. For Forever Free subjects, no single baseline variable predicted alcohol use during release. In regard to smoking, bivariate analysis showed that nearly 80% of women in both groups reported that they smoked and approximately 80% of those said that they would try a smoking cessation program if it were available.

Significantly more Forever Free women were employed at follow up, even after controlling for background characteristics through logistic regression. In addition, those with higher levels of education and those who reported methamphetamine as their primary drug were more likely to be employed. Methamphetamine is a stimulant that has a long association with the working

environment (e.g., shift work, trucking, waitressing) and perhaps the methamphetamine users in this study had a work history not otherwise accounted for.

Among the Forever Free participants, those who attended community residential treatment during release were 15 times more likely to be employed than those who did not. Also, those with higher levels of education and those who had a more internal locus of control (i.e., a greater sense of control over their drug use behaviors) were more likely to be employed at follow up. Those with higher confident collaboration scores (i.e., stronger feelings of therapeutic alliance with their counselors at intake) were less likely to be employed at follow up. Additional research is needed to explain this finding.

In both groups, those who were employed were working full time. On an hourly basis, take home pay averaged higher than the federal minimum wage of $5.15 per hour and the California minimum wage ($5.75 per hour at that time) and above the poverty level for a single person. If, however, a woman is supporting more than one child, then the family is at poverty level (USDHHS, 2001).

Bivariate analysis showed that, at follow up, Forever Free participants not only had significantly better psychological functioning than comparison subjects, but, with the exception of a rise in depression, they were also able to maintain the improved functioning they had attained by the end of treatment. They also felt significantly more in control of their drug-using behaviors than the comparison women. Forever Free participants' greater exposure to treatment, reduced drug use, better psychological functioning, and greater perceived control over their drug-using behaviors may provide an explanation for their reduced levels of treatment motivation at follow up. The comparison group had significantly higher mean scores for problem recognition and desire for help. Also, study participants who relapsed were apparently not in denial. They had significantly higher problem recognition and desire for help scores than those who had not recently relapsed. At the same time,

those with higher desire for help scores at follow up were more likely to have entered treatment during parole.

Over 80% of the women in the study had children and approximately two-thirds had children under 18 years of age. A greater proportion of Forever Free women than comparison women had legal custody of their children and a greater proportion of Forever Free women had children living with them. Not surprisingly, Forever Free women also spent more time with their children taking part in various parenting activities. Not counting those who were incarcerated at the time of the interview, a significantly higher proportion of Forever Free women than comparison women felt that they were doing well in their parenting.

During the follow up period, both Forever Free and comparison women reported a high need (over 40%) for medical/dental care, substance abuse treatment and relapse prevention, assistance obtaining welfare benefits, spiritual support, transportation, employment assistance and vocational training, and living skills or self-esteem training. With the exception of spiritual support, comparison women reported greater needs than Forever Free women. There were generally large gaps between the percentage of women reporting a service need and those reporting that that need was met. Unmet need was particularly high (over 30%) in the areas of vocational counseling or training, assistance getting employment, assistance obtaining educational services, assistance obtaining housing, counseling or other help for family, and relapse prevention. Also, although comparison women reported a higher level of service need than Forever Free women, fewer of them received services. Whether this was due to the comparison women's lesser participation in treatment during parole or to some other factor awaits further study.

Forever Free, at the time that we studied it, was unusual for a prison treatment program because its curriculum was based upon a cognitive-behavioral model rather than a therapeutic community model. (See our earlier report, Prendergast, Hall, Wellisch, & Baldwin, 2000, for an

extensive description of the program's treatment philosophy.) The results of this study provide support for the effectiveness of cognitive-behavioral treatment for women prisoners.

**Limitations**

Although we went to considerable effort to select a comparison group as similar as possible to the treatment group (see Table 3), the study results reported here may be limited by our inability to randomly assign subjects to treatment and comparison conditions and by our limited ability to collect comparable baseline data for the comparison group. Due to a limited research budget, we were not able to collect baseline data on treatment motivation, psychological functioning, therapeutic alliance, or drug-related locus of control for the comparison group and we were unable to control for baseline differences in these domains in the logistic regression analyses. In addition, at intake we were not able to collect detailed information about the status of children from the comparison group, so it is possible that the differences we found regarding children and parenting were due to pre-existing differences in the groups.

Our modest sample size resulted in reduced statistical power particularly in our logistic regression analysis. Because of relatively low statistical power, we reported logistic regression *p* values between 0.05 and 0.09 as marginally significant. Predictors with these *p* values would likely have reached significance with a larger sample size.

Because this was a study of a single treatment program, our ability to generalize to other women's programs in the criminal justice system may be limited. Indeed, due to changes in California Department of Corrections policy requiring all prison-based programs to conform to the therapeutic community treatment model and the resulting changes in the Forever Free program, the degree to which the results presented here represent typical outcomes for the current Forever Free program is open to debate.

**Recommendations and Directions for Future Research**

It is clear from this report and from past studies of Forever Free (see discussion in Prendergast, Hall, Wellisch, & Baldwin, 2000) that treatment after release is extremely important to success during parole. For instance, we reported in this study that Forever Free women who attended community residential treatment were 15 times more likely to be employed at follow up. In light of this evidence, we recommend that criminal justice system policy-makers encourage, if not mandate, community aftercare for women participating in prison-based treatment.

It is likely that the high levels of unmet service needs documented in this report contributed in some part to the failure of those women who were returned to custody during follow up. We suggest a policy change that requires needs assessment for women about to be released and provides a linkage to community-based programs that address women parolees' service needs through direct service delivery or referral. We also suggest more study of the impact of post-release services on long-term outcome.

This study demonstrates the effectiveness of the cognitive-behaviorally-oriented Forever Free program. Most research on prison-based treatment involves programs based on the therapeutic community model. We recommend that additional research be undertaken on the effectiveness of psychoeducational or cognitive-behavioral models of treatment in contrast to therapeutic community treatment within criminal justice settings. In addition, therapeutic community treatment programs typically are 9-12 months in length. That the Forever Free program, which was only 6 months in duration at the time of the study, was able to demonstrate its effectiveness may indicate that considerable cost savings could be achieved by shorter programs. Clearly, additional research needs to be undertaken on the composition and duration of programs for women in the criminal justice system.

This study presents evidence of better parenting outcomes for the women who participated in Forever Free. While this is likely due to the effects of treatment, we cannot rule out the possibility of baseline differences in the groups. Because improving the status of children of CJS-involved women is so important to breaking the cycle of drug use, crime, and poverty, there is great need for more research on this question.

Despite the limited vocational training Forever Free women received in prison, they were more likely than the comparison women to be employed at follow up. However, their income levels were low, putting them at the poverty line if they had two children at home. In addition, we found that the study participants' greatest unmet service needs involved vocational training and employment assistance. Because, as the law now stands, those convicted of drug crimes are not eligible for training through welfare-to-work programs, vocational training readily available to those in the criminal justice system is essential to improving the income status of CJS-involved women and their families.

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# Appendix

**Table A1**
**Need services since paroling from CIW**

| *Variable* | *Forever Free (n=101)* | *Comparison (n=79)* | *p value* |
|---|---|---|---|
| Medical or dental exams and treatment | 75.25 | 75.95 | .91 |
| Relapse prevention | 67.33 | 77.22 | .14 |
| Treatment for alcohol/drug use | 63.37 | 79.75 | .02 |
| Assistance getting TANF/AFDC, Medi-Cal, WIC, food stamps, general relief, etc. | 63.37 | 67.09 | .60 |
| Spiritual or religious support | 63.37 | 62.03 | .85 |
| Transportation assistance | 56.44 | 67.09 | .15 |
| Getting employment | 51.00 | 63.29 | .10 |
| Education programs, GED services, school | 48.51 | 67.09 | .13 |
| Counseling or other help for family | 48.51 | 59.49 | .14 |
| Self-esteem and living skills training | 48.51 | 55.70 | .34 |
| Vocational counseling or training | 45.54 | 56.96 | .01 |
| Housing | 37.62 | 60.76 | .00 |
| HIV education and access to testing | 37.62 | 56.96 | .01 |
| Getting food, furniture, clothing | 36.63 | 62.03 | .00 |
| Paying utility and bills | 31.68 | 55.70 | .00 |
| Parenting skills training | 29.70 | 41.77 | .09 |
| Legal advice or assistance | 28.71 | 36.71 | .03 |
| Grief counseling | 28.71 | 44.30 | .03 |
| Psychological counseling | 26.73 | 37.18 | .14 |
| Family planning or birth control services | 23.76 | 37.97 | .04 |
| Retain or reobtain custody of child | 21.78 | 43.04 | .00 |
| Disability issues and access barriers | 17.82 | 19.23 | .81 |
| Trustworthy child care | 15.84 | 18.99 | .58 |
| Prenatal or perinatal care | 9.90 | 18.99 | .08 |
| Protection from an abusive mate | 7.92 | 16.46 | .08 |

(Chi-square)

**Table A2**
**Percent who received services since paroling from CIW**

| *Variable* | *Forever Free (n=101)* | *Comparison (n=79)* | *p value* |
|---|---|---|---|
| Medical or dental exams and treatment | 53.47 | 39.24 | .06 |
| Relapse prevention | 48.51 | 27.85 | .005 |
| Treatment for alcohol/drug use | 51.49 | 43.04 | .26 |
| Assistance getting TANF/AFDC, Medi-Cal, WIC, food stamps, general relief, etc. | 50.50 | 39.24 | .13 |
| Spiritual or religious support | 54.46 | 31.65 | .002 |
| Transportation assistance | 33.66 | 30.38 | .64 |
| Getting employment | 20.79 | 12.66 | .15 |
| Education programs, GED services, school | 21.78 | 17.72 | .50 |
| Counseling or other help for family | 23.76 | 16.46 | .23 |
| Self-esteem and living skills training | 31.68 | 13.92 | .005 |
| Vocational counseling or training | 12.87 | 8.86 | .39 |
| Housing | 11.88 | 13.92 | .68 |
| HIV education and access to testing | 36.63 | 45.57 | .23 |
| Getting food, furniture, clothing | 22.77 | 26.58 | .56 |
| Paying utility and bills | 15.84 | 16.46 | .91 |
| Parenting skills training | 19.80 | 17.72 | .72 |
| Legal advice or assistance | 14.85 | 11.39 | .50 |
| Grief counseling | 13.86 | 6.33 | .09 |
| Psychological counseling | 11.88 | 15.19 | .52 |
| Family planning or birth control services | 19.80 | 17.72 | .72 |
| Retain or reobtain custody of child | 6.93 | 11.39 | .30 |
| Disability issues and access barriers | 9.90 | 8.86 | .81 |
| Trustworthy child care | 13.86 | 8.86 | .29 |
| Prenatal or perinatal care | 9.90 | 8.86 | .81 |
| Protection from an abusive mate | 2.97 | 3.80 | .76 |

(chi-square)

**Table A3**
**Overall percentages of women who needed/received services and unmet need since paroling from CIW**

| *Variable* | *Needed Services (n=180)* | *Received Services (n=180)* | *Unmet Need* |
|---|---|---|---|
| Medical or dental exams and treatment | 75.56 | 47.22 | 28.34 |
| Relapse prevention | 71.67 | 39.44 | 32.23 |
| Treatment for alcohol/drug use | 70.56 | 47.78 | 22.78 |
| Assistance getting TANF/AFDC, Medical, WIC, food stamps, general relief, etc. | 65.00 | 45.56 | 19.44 |
| Spiritual or religious support | 62.78 | 44.44 | 18.34 |
| Transportation assistance | 61.11 | 32.22 | 28.89 |
| Education programs, GED services, school | 56.67 | 20.00 | 36.67 |
| Getting employment | 56.42 | 17.22 | 39.20 |
| Counseling or other help for family | 53.33 | 20.56 | 32.77 |
| Self-esteem and living skills training | 51.67 | 23.89 | 27.78 |
| Vocational counseling or training | 50.56 | 11.11 | 39.45 |
| Housing | 47.78 | 12.78 | 35.00 |
| Getting food, furniture, clothing | 47.78 | 24.44 | 23.34 |
| HIV education and access to testing | 46.11 | 40.56 | 5.55 |
| Paying utility and bills | 42.22 | 16.11 | 26.11 |
| Legal advice or assistance | 35.56 | 13.33 | 22.23 |
| Parenting skills training | 35.00 | 18.89 | 16.11 |
| Grief counseling | 32.22 | 10.56 | 21.66 |
| Psychological counseling | 31.28 | 13.33 | 17.95 |
| Retain or reobtain custody of child | 31.11 | 8.89 | 22.22 |
| Family planning or birth control services | 30.00 | 18.89 | 11.11 |
| Disability issues and access barriers | 18.44 | 9.44 | 9.00 |
| Trustworthy child care | 17.22 | 11.67 | 5.55 |
| Prenatal or perinatal care | 13.89 | 9.44 | 4.45 |
| Protection from an abusive mate | 11.67 | 3.33 | 8.34 |

(chi-square)