

**Treatment Outcomes and Predictors for Special Populations  
in the California Treatment Outcome Project (CalTOP)**

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## Introduction

The California Treatment Outcome Project (CalTOP) was a multisite and multicounty prospective treatment outcome study. Data was collected over two years (2000-2002) on more than 20,000 patients, providing a rich dataset that has been the starting point for numerous analytical investigations by researchers at the UCLA Integrated Substance Abuse Programs.

CalTOP data has permitted the exploration of issues related to treatment needs, services received, treatment retention and completion, and outcomes that are little understood. In this White Paper we briefly summarize findings from in-depth analyses of four special populations: individuals with mental health problems, women with children, Indian Americans, and methamphetamine users. For brevity, we have omitted the statistical methods that were applied for each investigation and instead present only a summary of the general methods and measures implemented during CalTOP. Explained in greater detail are the key findings of each analysis and their program and policy implications. Readers interested in receiving more information on the design, statistical methods, scope and limitations of specific analyses should contact the lead author of this paper or read the *CalTOP Final Report* (available at [www.uclaisap.org](http://www.uclaisap.org)) or the article published in the May 2004 issue of the *Journal of Psychoactive Drugs* entitled “Pilot-testing a Statewide Outcome Monitoring System: Overview of the California Treatment Outcome Project (CalTOP).”

## Overview of CalTOP Data Sources

### Study Design

As part of the national Treatment Outcomes and Performance Pilot Studies Enhancement (TOPPSII) funded by the Center for Substance Abuse Treatment, CalTOP began data collection in April 2000 from all adult patients consecutively admitted to 43 programs in 13 counties in California. Criteria for selecting the participating counties and providers included demographic breadth and adequate flow of the patient population, automation readiness, and familiarity with assessment tools, geographic scope, and commitment to CalTOP. The participating programs represent all major modalities currently available in California (25 outpatient drug-free, 11 residential, 4 methadone maintenance, and 3 multiple modality). The counties represented in the study (Alameda, El Dorado, Kern, Lassen, Orange, Riverside, Sacramento, San Benito, San Diego, San Francisco, San Joaquin, San

Luis Obispo, and San Mateo) cover wide geographic locations (e.g., northern, central, and southern regions) and include both urban and rural areas.

The CalTOP evaluation targeted the first 3,314 adult admissions in 2001 and 2002 for the 3-month follow-up. Excluding the ineligible (5 deceased, 110 incarcerated, 17 deported or unable to answer the questions), 2,850 of the 3,182 eligible completed the interview (a 90% completion rate). For the 9-month follow-up, in order to achieve the target of 2,700 completed interviews, the first 3,715 patients were targeted, which included an additional 400 patients not targeted for the 3-month interview. Excluding the ineligible (29 deceased, 182 incarcerated, 7 deported), 2,730 of the 3,497 eligible completed the interview (a 78% completion rate).

### Treatment Programs

Questionnaires completed by the program directors provided the description of treatment characteristics of the participating CalTOP facilities. The “typical” treatment facility had been in operation for more than 15 years, was part of a larger organization, and had an average daily census of 112 patients (a median of 50). All were primarily drug treatment programs, as opposed to alcohol-only treatment programs, and most had a mixture of funding from both public and private sources.

Most programs offered intake assessment and both individual and group alcohol and drug counseling. The treatment durations offered by the 12 residential treatment programs varied considerably: 6 programs (50%) had less than 3 months planned duration, 3 programs had 3 months planned duration, one (8%) had 6 months, and 2 programs (17%) had more than 6 months. Among the 20 outpatient drug-free programs, 16 (or 75%) had a planned treatment duration between 3 to 6 months, and 4 programs (20%) provided treatment for 6 months or longer. In terms of mental health services, almost all programs provided biopsychosocial assessment and referral and 25.6% conducted psychiatric or psychological evaluation. More than half offered individual counseling (51.3%) and group counseling (41.0%) specifically for mental health issues. About 25.6% prescribed and/or monitored psychotropic medications on-site.

### Patient Intake Assessment and Follow-up

Patients were assessed at intake, discharge, 3-month follow-up, and 9-month follow-up. Treatment staff at participating programs completed an in-person assessment with all entering adult patients as part of the normal admission process. Treatment staff also completed an exit assessment.

Follow-up interviews were conducted by UCLA-trained interviewers over the phone at 3 months and 9 months after treatment admission. Each interview lasted approximately 30 minutes. Patients were paid \$10 for the 3-month interview and \$15 for the 9-month interview.

### Data Sources, Instruments, and Measures

Data sources included patient self-report at multiple assessment points as well as official records for mental health services utilization, arrests, and drug treatment participation.

*Addiction Severity Index (ASI).* The ASI is a structured interview that assesses problem severity in seven areas: alcohol use, drug use, employment, family and social relationships, legal, psychological, and medical status. A composite score can be computed for each of the scales to indicate severity in that area; the range of scores is 0 to 1 with higher scores indicating greater severity. The ASI was administered at treatment admission and 9 months post-admission. One major outcome measure is the difference in ASI composite scores from baseline to the 9-month follow-up.

*Drug treatment success.* Individuals were considered to be successful if they reported no use of alcohol or drugs and had an independent living arrangement in the community (i.e., not in a controlled environment such as prison, jail, or hospital) in the 30 days prior to the 9-month follow-up interview.

*Treatment Services Review (TSR).* The TSR was used to collect services provided to patients during treatment. The TSR recorded the number of professional services (e.g., doctor appointments, medications) and discussion sessions (e.g., group or individual counseling or education sessions, AA/NA meetings) that the patient received in the previous 3 months in each of the seven problem areas of the ASI. We expanded the TSR to include additional services for parenting/child care, HIV support, abuse, social services, and survival support. Service intensity in each of 12 types of services was a sum of the number of times a patient received services (either in the program or through referrals) in the respective area. This instrument was administered during the 3-month follow-up interview.

*Treatment retention* was based on treatment records reported to the state database, and was defined as the number of days between CalTOP program admission and discharge. For those without discharge records, we calculated their length of stay from admission to the last day receiving services or the time of interview.

*Mental Health Services Data.* Mental health services provided by the mental health programs to CalTOP patients were obtained by searching the Client and Service Information (CSI) database maintained by the Department of Mental Health (DMH). The database includes all Medi-Cal and

state-funded mental health services, including 24-hour, day services, and outpatient programs, and excluding state hospitals.

*Arrest Records.* Arrest records for CalTOP clients were obtained from the California Department of Justice (DOJ), which maintains the Criminal Identification and Information (CII) database in the Automated Criminal History System for all California criminal justice records.

### **Individuals with Mental Health Problems**

This analysis examined utilization of mental health services and treatment outcomes among 1,091 patients with mental health problems. We compared three groups: one that received dual treatment from drug and mental health programs (N = 294), one that received mental health services only within drug treatment programs (N = 578), and one that received no mental health services (N = 219). We explored the patient characteristics related to receiving dual treatment, receiving mental health services only in the drug treatment programs, and not receiving services from either source; the types of treatment services provided to these patients in these two types of settings; and the treatment outcomes for the three groups defined by type of service delivery.

#### Pre-treatment Characteristics

*Background.* The three analytic groups did not differ in age at drug treatment admission and legal status. However, the highest percentage of females was in the Dual-Treatment Group, followed by the Drug-Treatment Group and the No-Service Group. The No Service Group had more African Americans and Latinos and fewer Whites than the Dual-Treatment Group. Individuals receiving no services were also the most likely to be employed and the least likely to be on public assistance, while individuals in the Dual Treatment Group were least likely to be employed and most likely to be on public assistance.

*Drug use, treatment, and criminal history.* Patterns of drug use, treatment participation, and criminal involvement were examined. In general, the Dual Treatment Group had the most severe use of alcohol and drugs, followed by the Drug Treatment Group and the No Service Group, as reflected by higher rates of using heroin and cocaine, younger ages at initiation (e.g., alcohol), and more years of use (alcohol), although the significant differences were mostly between the Dual Treatment and No Services groups. There were no significant differences among groups in the rates of multiple drug use,

injection drug use, or type of primary drug use. Individuals in the Dual Treatment Group had the highest mean number of prior alcohol or drug treatment episodes, followed by the Drug Treatment Group, and the No Service Group. Not surprisingly, relative to the other two groups, more individuals in the No Service Group were treated in outpatient drug-free programs and less in residential programs.

There were no significant differences among groups in regard to criminal history; however, the No Service Group had the highest rate of referral to treatment through the criminal justice system, followed by the Drug –Treatment Group and Dual Treatment Group. A greater proportion of the Dual Treatment Group was referred by “other” providers, which can include mental health or other types of health care providers and community programs.

*Psychiatric problems.* The three groups differed significantly in their lifetime utilization of mental health services, their psychiatric symptoms, and perceived need for mental health treatment at intake into the CalTOP treatment episode. The Dual Treatment Group consistently reported the highest rates of prior mental health treatment, use of prescription medications for mental health problems, current psychiatric symptoms, days hospitalized in the previous 30, and days with psychiatric problems in the previous 30, followed by the Drug Treatment Group and the No Service Group. This group also reported being more troubled by their mental health problems and as having a greater need for mental health treatment. Consistent with these other indicators, nearly three quarters of the Dual Treatment Group had a “high” level of psychiatric severity (based on the median of the intake sample), compared with fewer than half of the Drug Treatment Group and less than one third of the No Services Group.

#### Mental Health Treatment Services, Drug Treatment Retention, and Self-Help Participation

We analyzed the mental health services received during the 3 months following treatment admission (for the Dual Treatment Group and Drug Treatment Group) based on the TSR collected at the 3-month follow-up interview. In these analyses, we included the ASI psychiatric score as covariate in order to control for the psychiatric severity at intake. A greater proportion of individuals in the Dual Treatment Group than the Drug Treatment Group reported receiving mental health tests, hospitalization, and medication for psychiatric problems. In contrast, a greater proportion of individuals in the Drug Treatment Group than the Dual Treatment Group received mental health services in forms of relaxation training and interpersonal skills. There were no significant differences between groups regarding receipt of behavioral modification (about one third of both groups) or having

“significant” discussions with a service provider (e.g., with a mental health specialist, counselor, or social worker in an individual or group session) related to one’s psychological problems (about three quarters of both groups).

About 54% of the No Service Group stayed in treatment for at least 90 days or completed treatment (which in some programs was less than 90 days duration), as did 62% of the Drug Treatment Group, and 59% of the Drug Treatment Group. Between 59% to 67% in each of the three groups attended self-help groups in the month prior to the 9-month follow-up. No group differences were found in either drug treatment retention or self-help group participation.

### Posttreatment Outcomes

Changes in the ASI psychiatric composite scores from baseline to follow-up most succinctly summarize changes in mental health problems after treatment. Repeated measures of ANOVA showed significant time and group effects ( $p < .0001$ ) but not their interaction. Significant reductions in psychiatric severity were observed for all three groups. Controlling for pretreatment differences, the Dual Treatment Group continued to show the highest level of psychiatric severity, followed by the Drug Treatment Group and the No Service Group.

In terms of overall drug treatment success defined as no use of alcohol or drugs and having a stable living in the community, 45% of the Dual Treatment Group and 51% to 52% of the other two groups were considered as successful at 9 months following treatment admission; again, no significant group difference was found. Combining across the three groups, there were significant correlations between psychiatric severity and alcohol use (.25,  $p < .001$ , at intake, .32,  $p < .001$ , at follow-up), and drug use (.21,  $p < .001$ , at intake, .27,  $p < .001$ ).

### Program and Policy Implications

This analysis is one of the first to examine the types of mental health services utilization among patients in drug treatment and the relationship of these service patterns to posttreatment outcomes. Moreover, the study has the advantage of a relatively large number of patients, multiple types of programs, and the linkage of self-report data with information from administrative data systems. The study demonstrated that more than a quarter of those expressing some level of mental health problems at admission into drug treatment also received services from mental health programs (i.e., the Dual Treatment Group), one-fifth received no services, and the remainder received some type of mental

health services within the context of drug treatment only. The group receiving dual treatment demonstrated the most severe profile of mental health problems, both over the lifetime and at treatment intake. Individuals who received dual treatment were more likely to be women (70%), to be White (66%), and to rely on public assistance, and were less likely to be employed at the time of intake. They also displayed more severe drug use and were more likely to have a history of prior drug treatment. This group was also more likely to use more intensive mental health services (e.g., hospitalization, medications).

In contrast, one-fifth of the sample did not receive any mental health services (i.e., No Service Group) even though their intake assessment indicated mental health problems. Relative to the other two groups, the No Service Group had the lowest percentage of female and individuals on public assistance, and the highest percentages of African American and Latino/Hispanics and individuals employed. Although the group's mean ASI psychiatric scores were lower than the other two groups, about 28% of this group had scores higher than the median (.366) of the overall sample. It is unclear why this group did not receive services addressing their mental health issues.

About half of the sample who reported mental health problems at drug treatment intake received mental health services within the drug treatment programs (Drug Treatment Group), and this group's outcomes often fell between the Dual Treatment Group and No Service Group, particularly in terms of psychiatric severity and service utilization, with some aspects (e.g., drug use) more similar to the Dual Treatment Group, and other aspects (e.g., demographics, prior alcohol or drug treatment) more similar to the No Service Group.

The three groups did not differ much in their stay in drug treatment or later participation in self-help groups. Their overall drug treatment success rates were also similar, ranging from 45% to 52%. Although all three groups showed significant improvement in level of psychiatric severity, the Dual Treatment Group continued to have the highest severity and the No Service Group the lowest, following the same order observed at intake. The analysis suggests that individuals who access services from mental health programs, rather than solely through drug treatment, have more severe types of mental health problems that require extended care or more intensive interventions. More than 35% of these dually treated individuals had affective or other psychoses. Unfortunately, psychiatric diagnoses (which were obtained from mental health records) were not available in the other two groups to make further comparisons across diagnostic categories. Other research has shown that patients with co-occurring disorders, in either substance abuse or mental health programs, differ in regard to types of



mental disorders. However, the Dual Treatment Group reported the highest level of mental health problem severity and service utilization. Additionally, severity levels of alcohol and drug use increase with psychiatric severity as evidenced by the significant correlations between psychiatric severity and alcohol and drug use at both intake and follow-up.

It is not clear why close to a quarter of those reporting mental health problems at treatment admission did not receive any services related to mental health issues. Service utilization can be a function of access as well as compliance by the patients. That is, some patients may fail to receive services because they are treated in drug treatment programs that fail to properly screen and assess for mental health disorders or that lack the capability to either provide these services on-site or to refer patients to off-site providers. Alternatively, the failure to receive mental health services may reflect a patient's lack of interest or willingness to address these issues, or may even reflect their inability to recall or to accurately report having received these services.

Few studies are available to assess mental health service utilization and treatment outcomes in community-based treatment programs. The present analysis provides evidence that individuals with mental health problems are found within mainstream community-based drug treatment programs and that fully half of them receive mental health services within the context of their substance abuse treatment, while another quarter receives treatment simultaneously from a separate mental health provider. Future studies should assess the extent to which treatment across substance abuse and mental health providers is coordinated and identify ways to improve service delivery to dually diagnosed individuals.

### **Women with Children**

The goal of this analysis was to compare the characteristics of mothers in substance abuse treatment who were ( $N = 1,939$ ) and were not ( $N = 2,217$ ) involved with child welfare. In particular, the two groups were compared with regard to their demographic characteristics and level of severity across several domains of functioning that may affect both their treatment outcomes and child welfare outcomes, i.e., addiction severity, psychiatric severity, criminal severity, and economic stability.

#### Bivariate Comparisons of Women Based on Child Welfare Involvement

*Addiction severity.* Overall, women who were not involved with CW had a higher level of addiction severity, as seen by higher mean scores on the ASI alcohol and drug severity scores and higher rates of polysubstance use. Women who were involved with CW reported first use of their primary substance at a slightly younger age. The two groups also differed with regard to the type of primary substance used; women who were not involved with CW had higher rates of alcohol as their primary substance, whereas women involved with CW had higher rates of methamphetamine as their primary substance. Rates of use of heroin/other opiates, cocaine/crack, and marijuana were comparable. There were no significant differences between groups with regard to whether they had prior alcohol or drug treatment or had a history of injection drug use.

*Psychiatric severity.* There were no significant differences between groups on the ASI psychiatric severity score, number of psychiatric symptoms ever experienced, and whether they had a history of mental health treatment. However, women who were not involved with CW had a higher rate of using prescription medications for a mental health problem. In addition, a greater proportion of women who were involved with CW reported a history of physical abuse, but the rates of lifetime sexual abuse (approximately half the sample) were comparable.

*Criminal severity.* There were no significant differences between groups on all but one measure of criminal severity. The groups were comparable on the ASI legal severity score, lifetime number of arrests and convictions, and total amount of time they had been incarcerated. However, women who were involved with CW had a lower rate of being on probation or parole at the time of treatment admission compared with the others.

*Economic stability.* Overall, women who were involved with CW had less economic stability, as seen by significant differences on several variables in this area. Women who were involved with CW had significantly lower scores on the ASI employment severity score, were less likely to have 12 or more years of education, and had a higher rate of being unemployed or having left the labor force. They were less likely to have others who depended upon them for economic support, but were more likely to be dependent upon others for the majority of their support. About one third of the sample reported having an unstable living situation prior to treatment admission, with no significant difference between groups.

*Demographics.* The two groups differed on several demographic characteristics. A greater proportion of women who were involved with CW were Hispanic; rates of CS involvement among African Americans and Whites were comparable. Women involved with CW were also younger on average and were more likely to have never been married. They also had more children on average and

were more likely to be pregnant at the time of treatment admission. Further, they had lower rates of living with any of their children in the 30 days and 6 months prior to treatment admission, and both groups had lower rates of living with their children immediately prior to treatment, compared with 6 months before.

*CalTOP treatment.* The two groups differed in their source of referral to the CalTOP treatment episode. Women who were involved with CW were less likely to cite an individual (i.e., self, family, or friends) or another AOD provider as the source of referral to treatment, and had a higher rate of being referred by another service provider (i.e., health care, child welfare, social services). Moreover, they had higher rates of being treated in outpatient drug-free programs than in residential or methadone maintenance programs.

### Logistic Regression Model Predicting Child Welfare Involvement

All variables that were significant in the bivariate comparisons were entered into a logistic regression model (except for whether the respondent was living with any of her children at treatment admission, which was confounded with the component of the dependent variable definition regarding whether any children were living outside the home due to a court order). In this way, the unique effects of each variable on child welfare involvement could be determined, while controlling the effects of all other variables entered into the model.

Higher scores on the ASI alcohol severity index (indicating more severity) were associated with a lower likelihood of child welfare involvement, whereas higher scores on the ASI employment severity index (indicating more severe employment problems) were associated with a greater likelihood. A history of physical abuse was associated with a 30% greater likelihood of being involved with child welfare services, whereas being on parole or probation at the time of admission decreased child welfare involvement by about 30%. Having at least 12 years of education reduced the likelihood of child welfare involvement by about 20%, and having 13 or more years reduced the likelihood by about 30%.

Women involved with child welfare were about 25% less likely to have one to two others who depended upon them for economic support, and were over 50% less likely to have three or more dependents. Age was inversely associated with child welfare involvement, such that each increase of 1 year was associated with a 3% reduction in the likelihood of child welfare involvement. Having a greater number of children increased the likelihood of involvement with child welfare, with an increase of about 50% per child. Women who were referred to CalTOP treatment through the criminal justice system were about 30% more likely to be involved with child welfare, compared with those who were self-referred or

referred by some other individual, and referral by another service provider (which could include child welfare services) more than doubled the likelihood of child welfare involvement. Lastly, being treated in an outpatient program increased the likelihood of child welfare involvement by over 50%, compared to those who were treated in residential programs.

Several variables that had been statistically significant in the bivariate analyses were no longer significant in the multivariate model, including the ASI drug severity score, polydrug use, the type of primary substance used, the age at which the respondent began use of her primary substance, use of psychotropic medications for mental health problems, employment status, dependence on someone else for economic support, pregnancy at treatment admission, ethnicity, and marital status.

### Program and Policy Implications

This analysis has shown that mothers who have been involved with the child welfare system and who have entered into substance abuse treatment differ in several important ways from other mothers in treatment, and these differences have implications for their treatment needs and outcomes. Most strikingly, women who have been involved with the child welfare system have an overall lower level of addiction severity but greater problems with economic stability. Interestingly, there were few differences, based on child welfare involvement, in criminal behavior history or psychiatric severity. Although the multivariate model showed a strong association between a history of physical abuse and involvement with child welfare, the nature of this relationship cannot be determined with these data. However, this finding is suggestive that women involved with child welfare may have greater service needs related to their own exposure to traumatic events and victimization, and that these events may adversely affect their parenting capability.

The profile of women who were involved with child welfare in this study partially corresponds to the characteristics of substance-abusing women in another study that were associated with disruptions in caregiving for infants, i.e., being younger, having more children, and having other children in foster care, suggesting that these women are at high risk of having ongoing problems in their ability to care for their children. Moreover, the findings concur with those in another recent study showing that Hispanic women had higher rates of involvement with child welfare than white women, but this relationship was explained by their lower socioeconomic status. In the present analysis the significant association between ethnicity and child welfare involvement was not retained in the multivariate analyses, although level of education and employment status were.

The precarious economic status of the women who were involved with child welfare presents challenges to both their recovery and ability to care for their children. Returning to neighborhoods where drug use is prevalent presents a high-risk for relapse to substance use. Lack of resources for housing, transportation, and childcare are also obstacles to reuniting with and/or caring for children. Such women also face numerous barriers to employment, further compromising their ability to sustain recovery and care for their children. Several studies have pointed out that the environmental context of maternal addiction, including family, home, and neighborhood, may have deleterious consequences on children, in addition to the direct effects of substance abuse on parental behavior.

Although there was no significant difference between the two groups with regard to criminal severity, and child-welfare involved women were less likely to be currently on probation or parole, approximately one third of those who were involved with child welfare had been referred to substance abuse treatment through the criminal justice system. Coordination of services for these women is even more challenging, given the disparities across three service delivery systems, and such women face additional obstacles to reunifying with children who have been placed with other caregivers.

### **American Indians**

This analysis examined differences in substance abuse treatment outcomes among 368 American Indians and an equal number of their non-American Indian counterparts. Official records on arrests, driving while under the influence of alcohol or drugs, and mental health care were obtained one year before and after treatment entry. Differences in pre-treatment patient characteristics, treatment retention, and outcomes were examined.

#### Pre-treatment characteristics

Problems were similarly severe among American Indians and non-American Indians at treatment admission. Severity scores of .21 and .24 are within the normal range for patients with substance abuse disorders. As indicated by the ASI Lite composite scores, American Indians scored slightly higher in problems related to employment (0.76), and lower in problems related to family (0.17), legal issues (0.17), medical health (0.22), and medical health (0.24). However, there were no statistically significant differences in severity across domains between the two groups.

When looking at frequency of alcohol use, the American Indian and the comparison groups are similar. In terms of alcohol use in the past 30 days and use of alcohol to intoxication in the past 30 days, the differences between the two groups are insignificant. A slightly higher number of American Indians reported experiencing problems with alcohol in the 30 days prior to admission (52.6% compared to 48.0%).

### Treatment retention

On average, the American Indian group stayed in treatment for about 92 days while the non-American Indian group stayed about 100 days. By modality, American Indians stayed more days in outpatient drug free (132 days vs. 121 days) and fewer days in residential (46 days vs. 66 days). About one-third of both groups stayed in treatment for 90 days or more, while half of patients in both groups either stayed for 90 days or more or completed the treatment episode that the treatment programs recommended. Differences were not statistically significant.

### Post-treatment outcomes

Changes after treatment admission are succinctly summarized by the ASI composite scores. Both groups improved in all areas measured by the ASI although American Indians demonstrated a greater improvement gain than the comparison group in the family and medical domains and a slightly lesser improvement gain in problems related to alcohol and drug use, employment, legal status, and psychiatric health. At the same time, fewer American Indians reported use of alcohol in the 30 days prior to follow-up compared to the comparison group (16.9% and 20.2% respectively).

When comparing frequency rates of alcohol use and alcohol-related problems for American Indians before and after treatment, improvement occurred. While 44.4% of American Indians reported alcohol use in the 30 days prior to admission, 16.9% reported alcohol use at follow-up. In addition, the rate of American Indians reporting alcohol problems in the 30 days prior to admission and follow-up dropped from 52.6% to 13.9%, respectively.

Both groups improved according to official records of arrests and service utilization in the 12 months before and after treatment admission. In the year prior to treatment admission, 39.6% of American Indians and 42.1% of patients in the comparison group had been arrested. Arrests decreased for both groups during the 12 months after treatment admission (22.2% for American Indians and 33.4% for the comparison group). The percent of American Indians arrested after admission

demonstrated a reduction rate of 17.4%, which is statistically significantly greater than the 8.7% reduction rate among the comparison group during the same time period.

About 7% of individuals in both groups had been arrested for driving while under the influence (DUI) of alcohol or drugs in the year before treatment admission. In the year after treatment admission American Indians had about two times fewer DUI arrests than the comparison group (p-value .07).

There were some differences between the two groups in the type of arrest offense. Significantly fewer American Indians had been arrested for a property-related offense (5.7%) prior to treatment. Less than 5% of patients in both groups had been arrested for a violent offense prior to treatment and about one quarter of patients in both groups had been arrested for a drug-related offense or an “other” public offense such as vagrancy, public intoxication, and vandalism. There was a reduction in arrests across types for both groups, although the reduction of drug-related and “other” offenses was greater among American Indians. Arrests for drug-related offenses decreased by 8.7% for American Indians and 7.9% for the comparison group while arrests for “other” offenses dropped by 10.3% among American Indians and only 1.1% for the comparison group.

The results for mental health service utilization after treatment were positive but less dramatic than the arrest data. About 16.5% of American Indians and 17.1% of the comparison group received mental health services in the year before treatment admission. The percentage of patients receiving these services increased by 3.8% for both groups in the 12 months after treatment admission.

### Program and Policy Implications

National reports show that American Indians populations suffer more from alcohol and drug abuse and related health consequences compared with other racial/ethnic groups. American Indians die more frequently than members of other groups from suicide, homicide, and unintentional injuries or accidents, most of which are related to alcohol, and these causes, along with cirrhosis and alcoholism, account for more than a third of all American Indian deaths. Moreover, we know that American Indians have limited access to quality health care. Given the limited access to health care and pronounced prevalence of drug abuse and related problems, it is especially important to understand how American Indians are impacted by the alcohol and drug abuse treatment services that are utilized.

Our analysis showed that American Indians do not appear to have more of a problem with alcohol and other drugs than the comparison group. Alcohol and drug abuse problems were similarly severe among American Indians and non-American Indians at treatment admission. About half of the

individuals in both groups stayed in treatment for the amount of time needed to maximize the benefits of treatment (i.e., 90 days or more, or completed the recommended treatment). Substance abuse treatment outcomes among American Indians entering programs geared toward the general treatment population were similar to or better than outcomes among their non-American Indian counterparts. Reduced “public nuisance” arrests after treatment admission were a particularly meaningful gain for American Indians.

The literature on American Indians and substance abuse treatment argues that services need to be tailored for the American Indian population and include traditional healing practices to be effective. Although specialized services may enhance outcomes, and certainly build patients relationships with their communities, our study indicates that American Indians entering mainstream treatment programs do as well as and sometimes better than other groups. In the absence of specialized treatment programs, mainstream treatment programs are able to serve the needs of their American Indian patients.

This analysis represents the first effort to document health, social, economic, and legal outcomes for American Indians served by mainstream treatment programs. The fact that American Indians in our sample decreased their rates of alcohol abuse and made improvements in other areas impacted by alcohol and drug abuse is encouraging. While we expected the American Indians to not fair as well as non-American Indians in treatment due to the lack of culturally specific practices in the participating programs, we should remember that American Indians are highly diverse in terms of their cultural and ethnic backgrounds and their varying levels of acculturation within mainstream American society. Future studies should examine differences in cultural and ethnic backgrounds of American Indian patients in treatment to better understand the ways in which these factors affect American Indians’ responses to mainstream treatment and its long-term effects.

### **Methamphetamine Users**

This analysis examined treatment outcomes among 1,073 methamphetamine-abusing patients (567 women, 506 men). We explored the patterns of drug use and other behaviors of these meth-abusing patients before they entered the CalTOP treatment programs; the types of treatment services provided to these patients; changes in drug use and other problem behaviors after treatment; and



gender differences among meth abusers at pre-treatment, during treatment, and at the 9-month follow-up.

### Pre-treatment Characteristics

*Background.* The majority of research participants were white, for both women (69.2%) and men (64.6%). While most patients were in their 30s or younger, women were on average two years younger than men. Significantly more men were employed (43.9%) than women (23.8%), and significantly more women (63.1%) received public assistance than men (37.0%). Additionally, more men were on parole (12.7%) than women (4.4%). These gender differences were similar across residential and outpatient programs.

*Drug use, treatment, and criminal history.* Patterns of drug use, treatment participation, and criminal involvement at intake were examined for the total sample and separately by modality and gender. While women reported initiation of meth use at an earlier age (19.2 years old) than men (20.6 years old), both used meth regularly for an average of 8.7 or 8.8 years. In general, slightly more than half of women (53.3%) and men (57.1%) had used multiple drugs, and almost a quarter (21.2% and 23.1%, respectively) reported injection drug use. While more men reported alcohol and marijuana, use rates of heroin and cocaine were similar for women and men. Men, however, appeared to have longer periods of use of cocaine, marijuana, and alcohol. These gender differences appeared consistent across modalities, indicating that women and men were similar in their history of meth use, poly drug use, and injection. Men appeared to have longer involvement in alcohol and marijuana use, partly because their older age. Nevertheless, women reported significantly more numbers of prior treatments for alcohol or drug, particularly among patients in outpatient programs. Women in our sample had less criminal involvement than men, as fewer of them reported lifetime arrest (76.7% versus 88.3% among men), had arrest records in the past year (36.7% versus 45.1%), or were criminally active in the past 30 days (55.2% versus 71.7%), although these differences were significant only among patients in the outpatient programs.

*Family relationships and history of abuse.* The majority of women (73.8%) and men (53.0%) in our sample had children under 18 years old, but most did not live with their children in the past 30 days; women significantly more so than men. Similarly, significantly more women than men (29.3% versus 9.9%) reported their children living with someone else by child protection court, and that their parental rights had been terminated (10.1% versus 2.2%). These patterns were similar for patients in

both residential and outpatient programs. Women were also more likely to have a family member who abused alcohol or drug and to report being physically or sexually abused in the past 30 days, particularly among patients in outpatient programs.

*Psychiatric problems.* Approximately one-third of women and men reported severe depression (38.8% and 29.8%, respectively), severe anxiety (43.0% and 37.4%), or trouble in concentration or memory (36.2% and 26.5%). Most of these differences were significantly evident among patients in residential programs, more so for women than men. Significantly more women than men had serious thoughts of suicide (11.3% versus 6.3%) and had been prescribed medication for their psychological problems (21.3% versus 15.4%). About 13% of women and 10% men also reported trouble controlling violent behaviors.

### Treatment Services and Retention

*Services received during treatment.* We examined the mean TSR service composite scores in each of the service areas during the first 3 months of treatment. In general, few gender differences were found in the service intensity, except that women in outpatient programs received significantly more services in employment, family, mental health, and parenting areas, while men in residential programs received more services addressing their drug use problems.

*Treatment retention.* Overall, 65.6% of the residential sample (with no significant differences for women and men) stayed in treatment for at least 90 days or completed treatment (which in some programs was less than 90 days duration), as did 58.8% of the outpatient sample, again with no significant gender-based difference.

### Post-treatment Outcomes

Changes in the ASI composite scores from baseline to follow-up most succinctly summarize changes in each of the seven key life areas after treatment. Significant reductions were observed in all problem areas for both women and men in both residential and outpatient programs (the only exception was that medical problem severity was not reduced among men in both modalities). In terms of differential reductions, greater improvements were observed among women than men in family relationships, psychiatric problems (for patients in residential programs), medical problems (for patients in outpatient programs), and drug use. The only greater improvement among men than women was in the area of employment among residential patients.

### Program and Policy Implications

The present analysis revealed that most methamphetamine abusers in California drug treatment programs were young (in their 20s or 30s, with women being 2 years younger than men on average) white (67%) or Latino (19%), and many were unemployed (76% women, 56% men), or on probation (35%). Many also had a long history of using alcohol and other drugs (e.g., marijuana, heroin, cocaine), had been previously in treatment for alcohol or drug problems, and had been involved in criminal justice systems (e.g., 55% women and 72% men were criminally active in the past 30 days before intake). Importantly, improvements from baseline to follow-up were observed in all key life areas measured by ASI for both women and men treated in either modality. Women demonstrated greater improvement than men in several areas (e.g., drug use, family relationships, psychiatric status), despite the fact that more of them were unemployed, had childcare responsibility, were living with someone who also used alcohol or drugs, had been physically or sexually abused, and reported more psychiatric symptoms including depression, anxiety, and cognitive problems. Although treatment retention or completion rates were similar for women and men, women in outpatient programs received significantly more services addressing problems in employment, family relationships, mental health, and parenting.

Few studies are available to assess treatment outcomes among meth abusers treated in community-based treatment programs. To our knowledge, the present analysis is the first that provides empirical support for positive treatment outcomes among a large sample of methamphetamine abusers treated in many different programs in a wide area. This study included 32 community-based treatment programs across California. Additionally, gender differences were systematically examined. Study findings confirmed that these meth abusers were a highly troubled group with problems in multiple key life areas, most noticeably employment, legal/criminal, parenting, and psychological distress. These problems appeared to be more severe among women, particularly given that most of these women were of childbearing ages or already had childcare responsibilities, but many were unemployed, relied on public assistance, and suffered from severe psychiatric problems. Developing and delivering adequate services to address these problems and needs with an understanding of gender-related differences will undoubtedly improve treatment outcomes for meth abusers. For example, the present analysis has showed that women appeared to have greater problem severity, but they also seemed to show greater improvement in many areas. Although women have been found to be more responsive to treatment

and have better overall outcomes, the differences may be attributable to the greater intensity of services received, as observed among the women included in this study in the outpatient programs.

Future studies and analyses should examine and characterize interventions and factors that are instrumental to produce positive outcomes for women and men meth abusers. Additionally, longer term follow-up observations may be needed to fully understand treatment and non-treatment factors that sustain treatment effects and facilitate stable recovery.

### **Summary**

In this White Paper we have presented results from comprehensive analyses conducted with CalTOP data on four special populations. Findings suggested that individuals with mental health problems can be successfully treated within drug treatment programs and/or in conjunction with mental health providers; economic instability among child-welfare involved mothers in substance abuse treatment must be addressed in order to improve their chances for long-term recovery and their ability to care for children; mainstream treatment programs are able to serve the needs of their American Indian patients; and women meth users in outpatient programs receive more services addressing problems in employment, family relationships, mental health, and parenting, which appear to counter their greater levels of problem severity and contribute to greater improvements.

Greater understanding of the complex issues like these that influence treatment for drug abuse will contribute to improving existing programs and to designing or refining appropriate interventions and treatment strategies.