

## CHAPTER X. PROGRAM AND SERVICE CHARACTERISTICS

Because alcohol and other drug (AOD) treatment program characteristics may influence client treatment outcomes (Hoffman et al., 1994; McLellan et al., 1993; McLellan et al., 1996; Hser et al., 1998 -- see Chapter II for a more detailed literature review), we examined CalTOP program characteristics and services provided to clients and related these to client outcomes. Program data were collected via a mail survey conducted among CalTOP programs.

Originally, service data under CalTOP included collection of the discrete services every individual client received while in treatment. The CalTOP study planned to collect and analyze the constellation of services each client received. Examining service data in relation to client assessment and outcomes would allow us to address three major research questions: What are the service components generally received by clients participating in California AOD treatment programs? In relationship to client characteristics at admission, does any particular constellation of services have a greater impact on functionality at exit from active services and at follow-up? For clients with the lowest functioning scores at admission, what constellation and timing of services has the greatest impact on increased functionality? Based on findings pertaining to these questions, the California Department of Alcohol and Drug Programs, over time, may consider:

- aligning service delivery practices with funding reimbursement,
- recognizing and rewarding programs with desired outcomes,
- recognizing best practices,
- identifying geographic and cultural diversity demanding specialized services, and
- streamlining reporting requirements for multiple fund sources.

However, as indicated in earlier chapters, reporting of service codes by CalTOP providers was not reliable. We therefore designed and conducted a brief program survey among CalTOP programs to obtain some basic information about the programs and services typically provided to clients in these programs. The focus of this chapter is to describe program characteristics and services based on the program survey. We also report some preliminary results in our initial efforts to identify program factors that may be related to improvement in client outcomes.

### Methods

#### *Study Design*

CalTOP was a multi-program multi-county prospective treatment outcome study that involved the direct collaborative efforts of policy-makers at federal, state, county, and other local levels. The participating treatment programs represented all major modalities currently available in California and the participating counties covered wide geographic regions (e.g., northern, central, and southern) and included both urban and rural areas. The outcome evaluation used a pre- and post-admission differences design to determine the effectiveness of service delivery to clients in the participating CalTOP counties. The study included consecutive admissions to participating programs starting in April 2000. A detailed description of the overall study design can be found in Chapter III.

## **Data Collection at the Provider Level**

A program survey was conducted among CalTOP programs to collect information about the program and services offered by the program facility. The survey was mailed to all 43 CalTOP sites asking for its return and all sites responded.

The survey consisted of a series of questions about the site (capacity, years in operation etc.) and the services a typical client in treatment was receiving at each site. In order to be consistent, and thus provide a context for interpreting the service codes reported by the provider for individual clients, the program survey adopted the same service codes. The service codes were developed by consultants from William Mercer Inc. in collaboration with treatment providers and others from the alcohol and other drug field. Specifically, the service element definitions were initially developed by a workgroup the summer of 1998. From that, System of Care Redesign (SOCR) workgroup representatives and California Alcohol and Drug Abuse Programs (ADP) staff reviewed and further revised the definitions. After training in the summer of 1999 for counties and providers who planned to participate in the CalTOP study and work completed by the CalTOP Rollout Committee in the Winter of 1999-2000, these final draft definitions were developed. CalTOP participating counties and providers collected data on 17 service elements. See Appendix F for the definitions.

## **Planned Analysis**

Descriptive statistics are presented to characterize program characteristics and services provided among CalTOP programs. We also initiated to explore associations between program factors and client improvement as described below.

Simple relationships between 9-month outcomes and provider characteristics were examined. The 9-month outcome measure was the difference between the client's drug score on the Addiction Severity Index at baseline and the same score at follow-up. Treatment provider characteristics examined included licensed capacity, daily census of clients, number of new admissions, the ratio of the daily census of clients to the provider's licensed capacity ("utilization"), years in operation, average planned treatment duration, and the number of services offered. In contrast to these variables, which apply to entire treatment programs, specific services offered by providers are provided only to some clients, so relating services offered to individual client outcomes would be inappropriate if the client did not actually receive the service. Therefore the relationship between services and client outcomes was not examined for this report.

At each treatment provider, nearly all clients who had drug problems at admission showed improvement at the 9-month follow-up (within the average provider, 93% improved).<sup>1</sup> While this is an encouraging finding from a treatment perspective, for statistical purposes the low amount of variation on this measure necessitated that a more stringent criteria be adopted in order to differentiate between different levels of improvement and to detect associations between outcomes and treatment provider characteristics. First, in order to guard against spurious results arising from low sample sizes, we selected for these analyses only facilities with more than 10 clients with drug problems at admission and follow-up ASI drug score data. Next,

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<sup>1</sup> The definition of a drug problem at admission was defined as an ASI drug score above zero. Improvement was defined as a lower ASI drug score at follow-up relative to the score at admission.

for each provider the percentage of follow-up clients with improvement above 0.1 on the ASI drug score was calculated. At the average facility, the percentage of clients that showed improvement using this benchmark was 65%.

Non-parametric (Spearman) correlations were used to examine the relationship between services provided and the facility-level percentage of clients with ASI difference scores above 0.1 at their 9-month follow-up interviews.

## **Results**

### ***Provider characteristics***

Table 10.1 shows CalTOP provider characteristics aggregated over all 43 facilities. The “typical” treatment site had been in operation for over 15 years, was part of a larger organization, provided 20-40 services, and had an average daily census of clients of 112 (a median of 50). However, the treatment sites varied widely in terms of all characteristics, illustrating the existence of broad diversity among alcohol and other drug treatment providers.

### ***Treatment Services***

The treatment services provided by the providers in this study, as well as the frequencies with which these services were provided, are shown in Table 10.2.

All sites offered intake and both individual and group alcohol and drug counseling. More than 90% also offered bio/psychosocial assessment, level of care assessment, service planning/planning review, case management, episode closure, and alcohol/drug education. In addition, more than four out of five (80%) offered screening, referral assessment, family social counseling (both individual and group), AOD urine screens, and medication management. However, it is important to note that not all clients received all services offered at any given site (nor would this be appropriate). On average, each site offered 36 different types of services.

### ***Associations between Provider Characteristics and Outcomes***

The degree of client improvement was marginally related to the number of services offered ( $r = .32$ ,  $p = .09$ ), with better outcomes found at providers that offered a larger array of services. The degree of client improvement was also marginally related to treatment utilization (ratio of daily clients divided by licensed capacity), with better outcomes being found at facilities with higher utilization ( $r = .37$ ,  $p = .07$ ). None of the other provider characteristics examined were related to client improvement.

**Table 10.1. CalTOP Provider Characteristics**

<b>Years treatment provider site in operation, % (N=42)</b>	
1-5 years	11.9
6-10 years	19.1
11-15 years	11.9
16+	57.1
<b>Organization status, % (N=43)</b>	
Independent	16.3
One of several sites under a parent organization	72.1
Part of a hospital or larger healthcare facility	9.3
Part of a university or school	0.0
Part of a prison or criminal justice program	7.0
Part of a tribal government	0.0
Part of community based organization	20.9
<b>Number of Services Provided (N=39)</b>	
Less than 20	2.6
20-30	48.7
31-40	33.3
41-50	12.8
50+	2.6
<b>Planned treatment duration in days, % (N=42)</b>	
0-30	7.1
31-45	4.8
46-90	11.9
91-179	19.0
180	31.0
181+	26.2
<b>Total licensed client capacity over the past 12 months, % (N=37)</b>	
Less than 50	24.3
50-100	13.5
101-200	37.8
201-300	8.1
301+	16.2
<b>New admissions, % (N=40)</b>	
Less than 100	22.5
100-200	30.0
201-400	30.0
More than 400	17.5
<b>Average daily census of clients (SD) (N=40)</b>	112.4 (180.1)
<b>Average new admissions (SD) (N=40)</b>	312.8 (387.0)

**Table 10.2. Treatment Services (N=43)**

	Treatment Services Provided		Percentage of Clients Getting Each Service										Percentage of Frequency of Scheduled Services													
			< 25%		25-50%		51-75%		76-99%		100%		Never		Once		Monthly		Weekly		Daily		> once A Day		Other	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Screening	36	83.7	8	18.6	0	0.0	1	2.3	0	0.0	34	79.1	7	16.3	32	74.4	1	2.3	0	0.0	1	2.3	2	4.7	0	0.0
Intake	43	100.0	0	0.0	0	0.0	1	2.3	4	9.3	38	88.4	0	0.0	38	88.4	0	0.0	1	2.3	3	7.0	1	2.3	0	0.0
Bio/Psycho/Social Assessment	41	95.4	4	9.3	0	0.0	1	2.3	7	16.3	31	72.1	2	4.7	31	72.1	5	11.6	0	0.0	2	4.7	1	2.3	2	4.7
Level of Care Assessment	42	97.7	2	4.7	0	0.0	1	2.3	4	9.3	36	83.7	1	2.3	30	69.8	4	9.3	1	2.3	3	7.0	1	2.3	2	4.7
Service Planning / Service Planning Review	40	93.0	3	7.0	1	2.3	5	11.6	2	4.7	32	74.4	3	7.0	7	16.3	20	46.5	4	9.3	1	2.3	1	2.3	6	14.0
Case Management	39	90.7	8	18.6	0	0.0	5	11.6	4	9.3	26	60.5	4	9.3	1	2.3	14	32.6	17	39.5	3	7.0	1	2.3	3	7.0
Referral Assessment	38	88.4	11	25.6	6	14.0	7	16.3	4	9.3	15	34.9	5	11.6	10	23.3	13	30.2	10	23.3	1	2.3	1	2.3	1	2.3
Linkage Assurance	33	76.7	15	34.9	3	7.0	6	14.0	4	9.3	15	34.9	10	23.3	10	23.3	13	30.2	8	18.6	0	0.0	0	0.0	1	2.3
Collateral Contacts	30	69.8	19	44.2	5	11.6	8	18.6	3	7.0	7	16.3	12	27.9	9	20.9	12	27.9	8	18.6	1	2.3	0	0.0	0	0.0
Episode Closure	42	97.7	1	2.3	0	0.0	1	2.3	9	20.9	32	74.4	1	2.3	34	79.1	2	4.7	1	2.3	2	4.7	2	4.7	1	2.3
Detoxification Services	10	23.3	42	97.7	0	0.0	0	0.0	0	0.0	0	0.0	32	74.4	7	16.3	0	0.0	0	0.0	2	4.7	1	2.3	0	0.0
Individual Counseling																										
Medical	23	53.5	22	51.2	5	11.6	1	2.3	0	0.0	13	30.2	20	46.5	6	14.0	5	11.6	8	18.6	0	0.0	2	4.7	2	4.7
Psychiatric	23	53.5	25	58.1	6	14.0	2	4.7	3	7.0	6	14.0	20	46.5	5	11.6	6	14.0	8	18.6	1	2.3	2	4.7	1	2.3
Alcohol/Drug	43	100.0	1	2.3	1	2.3	3	7.0	7	16.3	31	72.1	0	0.0	0	0.0	10	23.3	20	46.5	6	14.0	5	11.6	2	4.7
Employment	31	72.1	17	39.5	9	20.9	3	7.0	4	9.3	9	20.9	12	27.9	10	23.3	7	16.3	12	27.9	0	0.0	1	2.3	1	2.3
Legal	24	55.8	23	53.5	8	18.6	6	14.0	0	0.0	5	11.6	19	44.2	7	16.3	6	14.0	10	23.3	0	0.0	1	2.3		
Family Social	36	83.7	15	34.9	4	9.3	5	11.6	6	14.0	12	27.9	7	16.3	2	4.7	10	23.3	22	51.2	1	2.3	1	2.3	0	0.0
Group Counseling																										
Medical	17	39.5	28	65.1	7	16.3	0	0.0	0	0.0	8	18.6	26	60.5	4	9.3	5	11.6	5	11.6	1	2.3	0	0.0	1	2.3
Psychiatric	18	41.9	28	65.1	9	20.9	0	0.0	0	0.0	6	14.0	25	58.1	4	9.3	2	4.7	9	20.9	2	4.7	1	2.3	0	0.0
Alcohol/Drug	43	100.0	0	0.0	2	4.7	2	4.7	13	30.2	25	58.1	0	0.0	0	0.0	1	2.3	15	34.9	18	41.9	8	18.6	1	2.3
Employment	26	60.5	22	51.2	5	11.6	2	4.7	1	2.3	12	27.9	17	39.5	10	23.3	5	11.6	8	18.6	3	7.0	0	0.0	0	0.0
Legal	13	30.2	32	74.4	4	9.3	0	0.0	0	0.0	6	14.0	28	65.1	5	11.6	4	9.3	3	7.0	3	6.7	0	0.0	0	0.0
Family Social	35	81.4	13	30.2	3	7.0	6	14.0	4	9.3	16	37.2	8	18.6	1	2.3	6	14.0	4	9.3	1	2.3	1	2.3	1	2.3
Family Counseling	29	67.4	27	62.8	5	11.6	2	4.7	1	2.3	8	18.6	14	32.6	4	9.3	6	14.0	19	44.2	0	0.0	0	0.0	0	0.0
Family Group Counseling	13	30.2	30	69.8	2	4.7	3	7.0	0	0.0	6	14.0	8	18.6	0	0.0	0	0.0	8	18.6	1	2.3	0	0.0	4	9.3

**Table 10.2. Treatment Services (cont'd)**

	Treatment Services Provided		Percentage of Clients Getting Each Service										Percentage of Frequency of Scheduled Services													
			< 25%		25-50%		51-75%		76-99%		100%		Never		Once		Monthly		Weekly		Daily		> once A Day		Other	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Education/Training																										
Medical	18	41.9	31	72.1	1	2.3	1	2.3	0	0.0	10	23.3	25	58.1	5	11.6	8	18.6	5	11.6	0	0.0	0	0.0	0	0.0
Psychiatric	14	32.6	36	83.7	1	2.3	0	0.0	0	0.0	6	14.0	29	67.4	4	9.3	5	11.6	5	11.6	0	0.0	0	0.0	0	0.0
Alcohol/Drug	40	93.0	6	14.0	4	9.3	4	9.3	5	11.6	23	53.5	3	7.0	2	4.7	5	11.6	15	37.9	15	34.9	2	4.7	1	2.3
Employment	22	51.2	27	62.8	3	7.0	0	0.0	0	0.0	13	30.2	21	48.8	8	18.6	2	4.7	10	23.3	2	4.7	0	0.0	0	0.0
Legal	14	32.6	34	79.1	2	4.7	0	0.0	0	0.0	7	16.3	29	67.4	6	14.0	3	7.0	5	11.6	0	0.0	0	0.0	0	0.0
Family Social	29	67.4	18	41.9	8	18.6	2	4.7	1	2.3	14	32.6	14	32.6	4	9.3	6	14.0	16	37.2	3	7.0	0	0.0	0	0.0
Laboratory																										
AOD Urine Screen	37	86.1	13	30.2	3	7.0	1	2.3	8	18.6	18	41.9	6	14.0	2	4.7	18	41.9	13	30.2	3	7.0	1	2.3	0	0.0
TB Test	16	37.2	29	67.4	0	0.0	0	0.0	2	4.7	11	25.6	26	60.5	12	27.9	1	2.3	1	2.3	0	0.0	0	0.0	2	4.7
HIV Test	19	44.2	28	65.1	7	16.3	2	4.7	4	9.3	2	4.7	24	55.8	8	18.6	7	16.3	2	4.7	0	0.0	0	0.0	2	4.7
Pregnancy Test	5	11.6	39	90.7	3	7.0	1	2.3	0	0.0	0	0.0	38	88.4	2	4.7	1	2.3	0	0.0	0	0.0	0	0.0	2	4.7
AOD Blood Test	2	4.7	41	95.4	0	0.0	0	0.0	0	0.0	2	4.7	41	95.4	1	2.3	0	0.0	1	2.3	0	0.0	0	0.0	0	0.0
AOD Breathalyzer Test	19	44.2	33	76.7	2	4.7	6	14.0	1	2.3	1	2.3	24	55.8	5	11.6	2	4.7	9	20.9	3	7.0	0	0.0	0	0.0
Hepatitis C Test	3	7.0	42	97.7	1	2.3	0	0.0	0	0.0	0	0.0	40	93.0	3	7.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Medical Services																										
General Medical	5	11.6	39	90.7	0	0.0	1	2.3	1	2.3	2	4.7	38	88.4	3	7.0	1	2.3	0	0.0	1	2.3	0	0.0	0	0.0
Dental	0	0.0	43	100.0	0	0.0	0	0.0	0	0.0	0	0.0	43	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
MD Consult ( Pregnancy)	3	7.0	40	93.0	0	0.0	1	2.3	1	2.3	0	0.0	39	90.7	0	0.0	2	4.7	1	2.3	0	0.0	0	0.0	0	0.0
Alternative Med.	4	9.3	40	93.0	3	7.0	0	0.0	0	0.0	0	0.0	39	90.7	3	7.0	1	2.3	0	0.0	0	0.0	0	0.0	0	0.0

**Table 10.2. Treatment Services (cont'd)**

	Treatment Services Provided		Percentage of Clients Getting Each Service										Percentage of Frequency of Scheduled Services																	
			< 25%		25-50%		51-75%		76-99%		100%		Never		Once		Monthly		Weekly		Daily		> once A Day		Other					
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%				
Pharmoco-Therapy																														
Methadone Dosage	8	18.6	37	86.1	2	4.7	0	0.0	1	2.3	3	7.0	35	81.4	0	0.0	0	0.0	0	0.0	8	18.6	0	0.0	0	0.0	0	0.0		
LAAM Dosage	4	9.3	43	100.0	0	0.0	0	0.0	0	0.0	0	0.0	39	90.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	9.3	0	0.0	0	0.0
Naltrexone	0	0.0	43	100.0	0	0.0	0	0.0	0	0.0	0	0.0	43	100.0	38	88.4	5	11.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Antabuse	5	0.0	43	100.0	0	0.0	0	0.0	0	0.0	0	0.0	38	88.4	0	0.0	2	4.7	3	7.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Psychiatric	10	23.3	37	86.1	4	9.3	1	2.3	1	2.3	0	0.0	33	76.7	3	7.0	3	7.0	2	4.7	1	2.3	1	2.3	0	0.0	0	0.0	0	0.0
Medication Management- Prescribed Medication to Ensure Physical Health	11	25.6	6	14.0	1	2.3	4	9.3	2	4.7	0	0.0	2	4.7	0	0.0	0	0.0	0	0.0	7	16.3	3	7.0	1	2.3	0	0.0	1	2.3
Medication Management- Methadone	6	14.0	37	86.0	1	2.3	1	2.3	1	2.3	1	2.3	1	2.3	0	0.0	0	0.0	0	0.0	5	11.6	1	2.3	0	0.0	0	0.0	0	0.0
Medication Management - LAAM	4	9.3	39	90.7	0	0.0	0	0.0	0	0.0	0	0.0	1	2.3	0	0.0	0	0.0	0	0.0	1	2.3	0	0.0	3	7.0	0	0.0	0	0.0
Psychiatric/Psychological – Evaluation	10	23.3	36	83.7	3	7.0	1	2.3	1	2.3	2	4.7	32	74.4	8	18.6	0	0.0	2	4.7	0	0.0	0	0.0	0	0.0	1	2.3	0	0.0
Vocational/Educational																														
Employ Services	15	34.9	31	72.1	1	2.3	0	0.0	5	11.6	6	14.0	28	65.1	4	9.3	2	4.7	8	18.6	0	0.0	0	0.0	0	0.0	1	2.3	0	0.0
Rehab Services	12	27.9	33	76.7	0	0.0	1	2.3	4	9.3	5	11.6	31	72.1	2	4.7	1	2.3	9	20.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
GED Training/Test	11	25.6	36	83.7	1	2.3	2	4.7	2	4.7	2	4.7	32	74.4	0	0.0	9	20.9	2	4.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Support & Other Services																														
AOD Free Social Recreational	27	62.8	20	46.5	3	7.0	1	2.3	5	11.6	14	32.6	16	37.2	2	4.7	7	16.3	13	30.2	4	9.3	1	2.3	0	0.0	0	0.0	0	0.0
Legal Services	7	16.3	37	86.1	2	4.7	2	4.7	0	0.0	2	4.7	36	83.7	0	0.0	4	9.3	3	7.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Resident Housing	11	25.6	35	81.4	2	4.7	0	0.0	3	7.0	2	4.7	32	74.4	3	7.0	2	4.7	0	0.0	5	11.6	0	0.0	0	0.0	0	0.0	0	0.0
Shelter/Support House	10	23.3	37	86.1	1	2.3	0	0.0	3	7.0	1	2.3	32	74.4	2	4.7	1	2.3	1	2.3	6	14.0	0	0.0	0	0.0	0	0.0	0	0.0
Transportation	24	55.8	27	62.8	3	7.0	3	7.0	5	11.6	5	11.6	19	44.2	3	7.0	2	4.7	4	9.3	14	32.6	1	2.3	0	0.0	0	0.0	0	0.0
Child Care	16	37.2	32	74.4	5	11.6	1	2.3	2	4.7	3	7.0	27	62.8	0	0.0	1	2.3	3	7.0	10	23.3	1	2.3	1	2.3	1	2.3		
Child Dev Services	7	16.3	36	83.7	3	7.0	1	2.3	1	2.3	2	4.7	36	83.7	0	0.0	2	4.7	1	2.3	4	9.3	0	0.0	0	0.0	0	0.0		
Aftercare Services	18	41.9	26	60.5	1	2.3	3	7.0	5	11.6	7	16.3	23	53.5	1	2.3	4	9.3	13	30.2	1	2.3	0	0.0	0	0.0	0	0.0		
Non-Res. Meals	4	9.3	39	90.7	0	0.0	1	2.3	1	2.3	2	4.7	39	90.7	0	0.0	0	0.0	1	2.3	3	7.0	0	0.0	0	0.0	0	0.0		
Neighborhood Recovery	14	32.6	32	74.4	1	2.3	1	2.3	1	2.3	8	18.6	29	67.4	0	0.0	0	0.0	5	11.6	9	20.9	0	0.0	0	0.0	0	0.0		



## Discussion

Perhaps not surprisingly, providers varied widely across most characteristics, such as size, years in operation, average planned treatment duration, and services offered. A wide array of services were typically available to clients at CalTOP treatment providers.

Clients showed marginally significantly greater improvement after being treated at providers where more services were available, which suggests that more comprehensive services lead to better outcomes. This is consistent with previous literature showing a relationship between outcomes and services provided (e.g. Hoffman et al., 1994; McLellan et al., 1993, McLellan et al., 1996).

Client improvement was also marginally significantly related to the percentage of a facility's capacity that is utilized. This relationship may be due to better client retention at these providers, to greater demand for treatments that work, or to some third factor (e.g. client characteristics or an unexamined treatment characteristic) that results in both improved outcomes and high utilization rates.

Overall, because these analyses were calculated at the provider level and using somewhat conservative techniques for inclusion in the analyses (i.e., removing facilities with fewer than 10 eligible clients), a relatively small sample size was available for the analyses, reducing our ability to detect statistically significant relationships. Furthermore, individual client characteristics can have a substantial impact on outcomes and would ideally be examined or controlled for in a more complex and advanced analysis. Such analyses at the individual client level would also provide greater statistical power. In future research, additional client-level data on services received and the application of more sophisticated (and time consuming) analyses may further illuminate the relationships between treatment characteristics and outcomes. As it becomes available, we will pursue individual-level data on services received in order to examine the relationship between services and treatment outcomes.

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