

## Highlights

These treatment components appear to influence treatment outcomes:

- Length of stay
- Consideration of individual client needs for treatment assignment and planning
- Receipt of specific therapeutic services



## Treatment Components and Their Relationships with Drug and Alcohol Abstinence



### NEDS Analytic Summary Series

The Center for Substance Abuse Treatment (CSAT) works to improve the lives of those affected by alcohol and other substance abuse, and, through treatment, to reduce the ill effects of substance abuse on individuals, families, communities, and society at large. Thus, one important CSAT mission is to expand the knowledge about effective substance abuse treatment and recovery services. In support of these efforts, CSAT established the National Evaluation Data Services (NEDS) contract to provide a wide array of secondary data analysis products to the substance abuse treatment field.

Specifically, the NEDS project is focused upon providing CSAT with an analytic capability to use existing data to address policy- and practice-relevant topics as well as future research and evaluation activities. NEDS has developed several product lines designed to provide analytic findings to analytic substance abuse treatment policy makers, service providers, services researchers and evaluators in a format that is most useful to the end user.

The Analytic Summary is one of the NEDS product lines. The purpose of the Analytic Summary is to provide a brief summary of each technical report produced by NEDS written in non-technical language. Readers who find the Analytic Summary results of interest can contact the original NEDS technical report authors for more detailed information. Through this process, the NEDS Analytic Summaries provide information to the substance abuse treatment field and promote linkages among different areas in the field.

### This Analytic Summary

This NEDS Analytic Summary is based on the NEDS Technical Report titled *Treatment Components and Their Relationships with Drug and Alcohol Abstinence* (Orwin & Ellis, 1999). For a more thorough discussion of the analysis and findings, please obtain a copy of the complete Technical Report. Information for doing so is provided on the last page of this summary.

### Contents

Analytic Importance . . . . .	2
Analytic Approach . . . . .	2
Findings . . . . .	3
Implications . . . . .	4
Future Steps . . . . .	6

# Treatment Components and Their Relationships with Drug and Alcohol Abstinence

The goal of this analysis was to answer these questions:

- What treatment components seem to improve client outcomes?
- Does the treatment setting influence the relationship between treatment components and client outcomes?
- What are the interrelationships between client-level factors and treatment components?
- What are the implications of this information for future research, policy, and practice in the substance abuse treatment field?



## Analytic Importance

Substance abuse is a pervasive source of dysfunction in our culture. Substance abuse treatment services, offered in a variety of approaches and for varying lengths of time, have been demonstrated, by NTIES and other evaluation studies, to be effective in curtailing substance abuse. While NTIES and other studies demonstrate substance abuse treatment effectiveness, little is known about the impact of specific treatment settings and their components on the behaviors of substance abusing clients. In supporting the analysis of the NTIES data collected, CSAT is attempting to identify: *Which treatment settings and what treatment components have a positive impact on clients' abstinence from substance use.*

## Analytic Purpose

This analysis is part of the larger National Evaluation Data Services (NEDS) initiative and represents an attempt to determine what data for understanding the relationship among treatment settings, treatment components, and client outcomes are available in the NTIES database, and to learn what the data can tell us. Specifically, this analysis evaluated the effect of treatment components through a secondary analysis of data from the NTIES data set (see p. 7). The goal of the secondary analysis was to increase the understanding of the relationship between treatment components and client outcomes by answering four specific questions:

- What treatment components seem to improve client outcomes?

- Does the treatment setting influence the relationship between treatment components and client outcomes?
- What are the interrelationships between client-level factors and treatment components?
- What are the implications of this information for future research, policy, and practice in the substance abuse treatment field?

## Analytic Approach

Analysts used NTIES data for 3,085 clients across five treatment settings: (1) methadone maintenance; (2) non-methadone outpatient; (3) short-term residential; (4) long-term residential; and (5) treatment in a correctional setting. The treatment components included in the analysis were:

- **Length of stay** in treatment
- **Client-treatment matching**
- **Prominence of treatment plans** (whether clients said that they saw “a treatment plan or list of treatment goals”)
- **Average weekly methadone dose** (methadone treatment only)
- **Receipt of other therapeutic services**
- **Receipt of specific medications.**

Analysts used multi-variate analysis techniques (statistical techniques used to determine the relative weight or influence of specific factors or variables on specific treatment outcomes) to estimate the effect of treatment components

## Treatment Components and Their Relationships with Drug and Alcohol Abstinence (cont.)

on two measures of abstinence: 1) abstinence at follow-up from a substance for which the client sought treatment; and 2) abstinence at follow-up from all substances.

As in the original NTIES study, “abstinence” was defined as using a substance less than five times during the year-long follow-up period. Age, gender, pregnancy status, education, and race/ethnicity were included in the analysis as background variables along with the clients’ primary substances, treatment completion status, prior treatment, medical and mental conditions, and legal pressures.

The analysis for this effort, by design, used statistical techniques that are potentially more rigorous than the data can support. Therefore, a secondary objective of this analysis was to determine the analytic usefulness of multi-variate analysis techniques for looking at the NTIES data in more

depth, so as to uncover relationships that may elude other analytic techniques.

### Findings

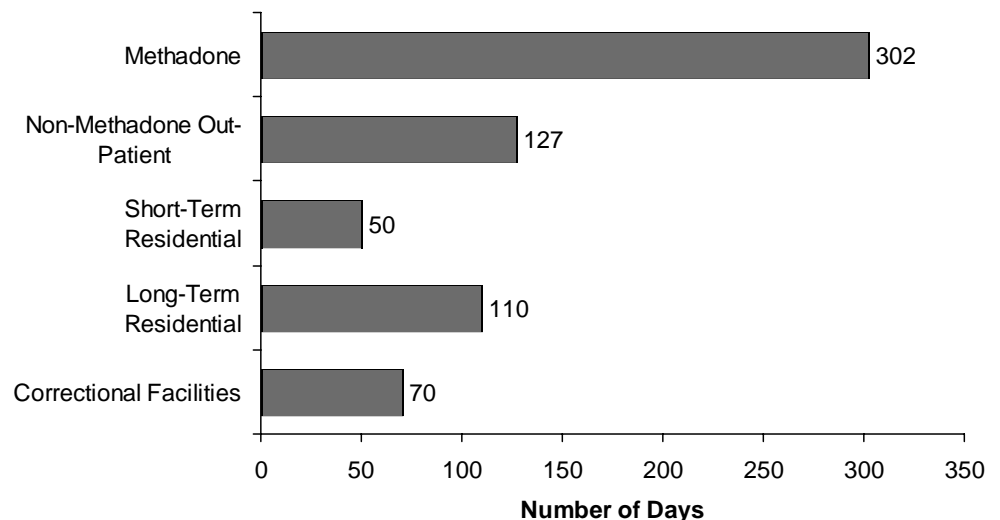
Several treatment components appeared to significantly influence treatment outcomes:

**Length of Stay.** The average lengths of stay for each of the treatment settings are graphically presented in Exhibit 1. In this analysis, the length of stay appeared to be positively related to both categories of abstinence in the non-methadone out-patient and long-term residential treatment settings. In these modalities, the analysis results suggest that increasing length of stay may improve treatment outcomes.

**Consideration of client needs for treatment assignment (client-treatment matching) and planning (client involved with treatment plan).** The proportion of clients whose needs

For the non-methadone out-patient and long-term residential treatment settings, results suggest that increasing length of stay may improve treatment outcomes.

Exhibit 1  
Length of Stay (Average of Days)



## Treatment Components and Their Relationships with Drug and Alcohol Abstinence (cont.)

The positive effects of counseling intensity, substance abuse medications, and participation in treatment planning appeared to differentially benefit males. This suggests that treatment providers may need to offer more tailored services so that female clients benefit, as well.

were considered in treatment assignment and the proportion of clients who participated in their treatment planning is presented in Exhibit 2 for the five treatment settings. In this analysis, treatment matching appeared to be an important factor in relation to abstinence among clients who attended short-term residential treatment. Participation in treatment planning was statistically related to abstinence among clients who received methadone and short-term residential treatment settings.

**Receipt of Specific Therapeutic Services.** Specific therapeutic approaches appear to influence abstinence from substance use. Hours per month in individual and group counseling appeared to have an influence on abstinence among clients in short-term residential treatment. (See Exhibit 3.) Educational, vocational, and other ancillary services and the use of anti-anxiety, drug, and alcohol medications also appeared to be related to the

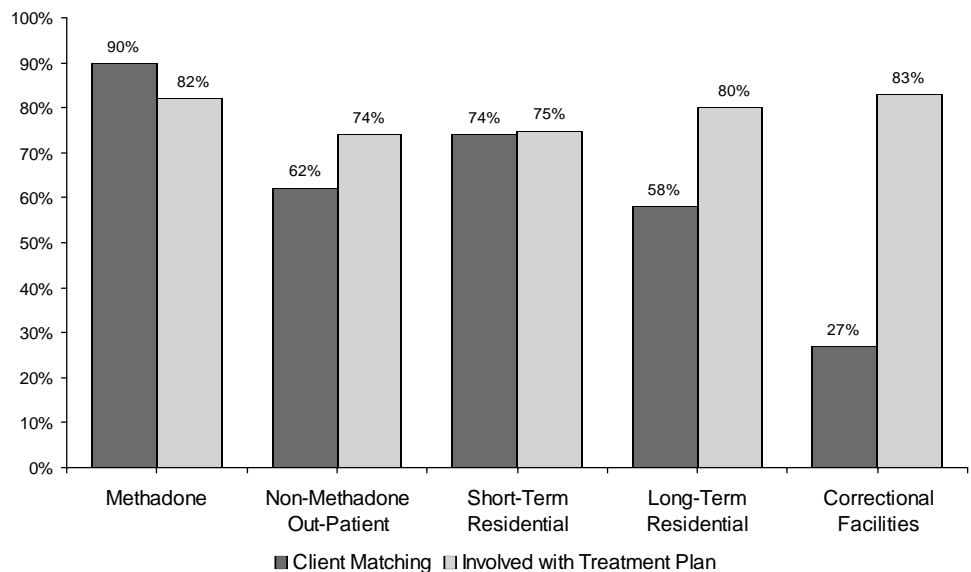
impacts on one or both forms of abstinence in short-term residential settings, suggesting that greater treatment intensity may improve treatment outcomes for this treatment setting. (See Exhibit 4.)

**Gender differences.** The analysis also indicates that the positive effects of counseling intensity, substance abuse medications, and participation in treatment planning appeared to differentially benefit males. This suggests that substance abuse treatment providers may need to offer more tailored services so that female clients benefit, as well.

### Implications

These results have research/analysis and policy implications for agencies involved in funding and delivering substance abuse treatment service. The findings are also significant for providers of substance abuse treatment and their clients.

**Exhibit 2**  
Client Needs Considered for Treatment Assignment and Planning



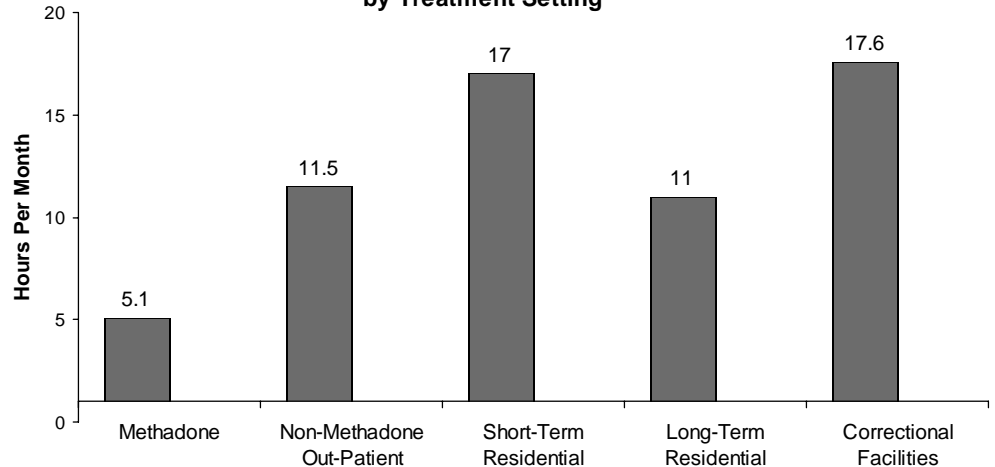
## Treatment Components and Their Relationships with Drug and Alcohol Abstinence (cont.)

Implications of these findings for research and analysis:

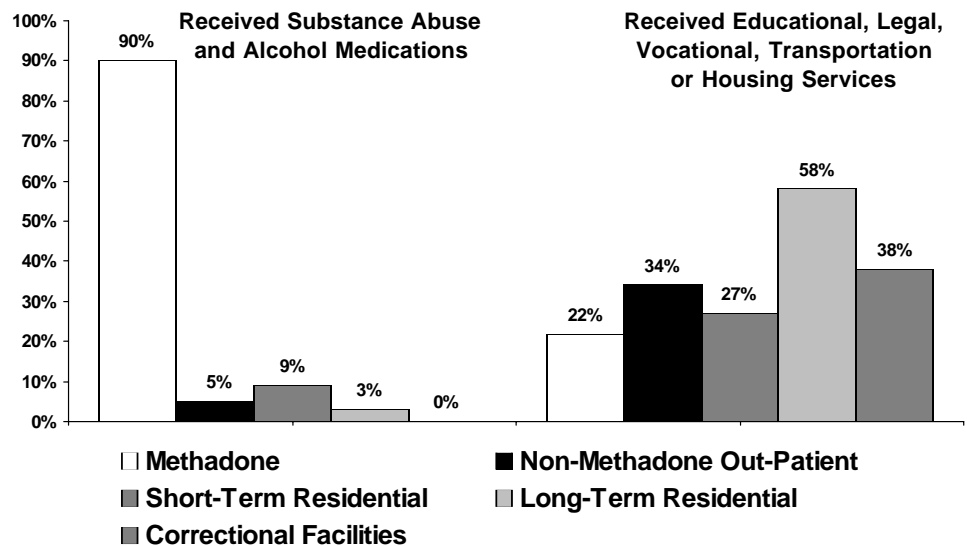
- Additional primary data collection is desirable to further explore the effects of specific treatment components.
- More analysis is needed on how gender factors influence treatment outcomes.



**Exhibit 3**  
Mean Number of Hours Per Month in Individual and Group Counseling by Treatment Setting



**Exhibit 4**  
Proportion of Clients Who Received Selected Services by Treatment Setting



### Implications for Research and Analysis

- The challenges to successful study of how treatment components affect substance abuse treatment outcomes are many. For example, different populations respond to different

types of treatment, the effects of specific components in comprehensive treatment settings can be difficult to study with accuracy, and controlling for client self-selection is a further challenge. **New opportunities to collect primary data on treatment components and client**

## Treatment Components and Their Relationships with Drug and Alcohol Abstinence (cont.)

The apparent effectiveness of specific services varied considerably by treatment setting. This finding suggests that implementation or expansion of specific treatment components should be considered in the light of the overall treatment setting.



characteristics would contribute to a more rigorous examination of these questions by supporting specific treatment component investigations.

- The apparent differences in effectiveness of treatment settings for male clients as opposed to female clients suggests that **more analysis is needed on gender factors that may influence treatment outcomes and on the treatment components offered to females (as opposed to males)**. Given that much of the medical research has focused on male patients and clients, the preliminary findings in this analysis further support the need to take into consideration the client's gender when designing treatment settings and prescribing substance abuse treatment.

### Implications for Policy Makers

- **Longer lengths of stay may enhance treatment outcomes in non-methadone outpatient and long-term residential treatment**, even when clients do not complete treatment.
- The positive impact of counseling intensity, educational and vocational counseling received, and the use of substance abuse medications on abstinence suggests that **greater treatment intensity in short-term residential treatment settings may improve treatment outcomes**.

### Implications for Treatment Providers/Clients

- **The treatment outcomes of clients who see and participate in the development of their treatment plans can potentially be enhanced**

with little cost and risk. There was little evidence that participation in treatment planning was harmful or that this activity diverted resources from other treatment strategies.

- **Matching clients to counselors or key providers appears to improve treatment outcomes in methadone maintenance and correctional modalities.**
- The apparent effectiveness of counseling, employment and vocational services, and substance abuse medications varied considerably by treatment setting. This suggests that **the treatment setting should be taken into account before recommending implementation or expansion of specific components**.

### Future Steps

Understanding relationships among treatment components and client outcomes is a complicated but necessary next step for the substance abuse treatment field given the important implications for treatment providers, the behavioral health care industry and the clients themselves. Further analyses of treatment data should be conducted to address the following questions:

- Why do different treatment settings appear to yield different results?
- What is the effect of the aftercare component? (Investigate and quantify post-treatment services.)
- What is the effect of different monitoring and urinalysis regimes during treatment?
- What is the impact of assessment at intake (with emphasis on the interplay between assessment activities at

## Treatment Components and Their Relationships with Drug and Alcohol Abstinence (cont.)

intake and the use of treatment plans and client matching)?

- What is the extent and impact of clients receiving services they did not need and would not find beneficial?
- Do alternate concepts of treatment components yield similar results?

The answers to these questions would increase confidence in the results reported here.

### References

Orwin, R. & Ellis, B., *Treatment Components and Their Relationships with Drug and Alcohol Abstinence*. January 2000, Prepared for the Center for Substance Abuse Treatment by Battelle Centers for Public Health Evaluation and Research under the National Evaluation Data Services (NEDS) contract.

National Opinion Research Center, *The National Treatment Improvement Evaluation Study Final Report*, March 1997. Prepared for the Center for Substance Abuse Treatment, U.S. Department of Health and Human Services.

*For more information, please contact the National Evaluation Data Services analysis team at (703) 385-3200, or visit the NEDS Web site.*

**Find more on the web**  
<http://neds.calib.com>

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### National Treatment Improvement Evaluation Study (NTIES)

This analysis was performed on data derived from the National Treatment Improvement Evaluation Study (NTIES). The NTIES was a national evaluation of the effectiveness of substance abuse treatment services delivered in comprehensive treatment demonstration programs supported by the Center for Substance Abuse Treatment (CSAT). The NTIES project

collected longitudinal data between FY 1992 and FY 1995 on a purposive sample of clients in treatment programs receiving demonstration grant funding from CSAT. Data are derived from client interviews conducted at three points in time: treatment intake, treatment exit, and 12 months after treatment exit.



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