

NEDS ANALYTIC SUMMARY

Highlights

Clients in the NTIES sample who were maintained on methadone for 12 or more months were more likely to abstain from drug use than clients who were discharged prior to completing 12 months of methadone treatment.



Methadone Treatment Outcomes in the National Treatment Improvement Evaluation Study (NTIES)



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 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 particular NEDS Analytic Summary is based on the NEDS Technical Report titled *Methadone Treatment Outcomes in the National Treatment Improvement Evaluation Study (NTIES)* (Greenfield, L., June 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

Methadone Treatment Outcomes in the National Treatment Improvement Evaluation Study (NTIES)

The analysis sought answers to the following questions:

- Does a longer stay in treatment produce better outcomes than a shorter stay in treatment?
- Do these treatment benefits persist over relatively long (versus short) follow-up periods?

Analytic Importance

One important function of CSAT is to expand the knowledge about and the availability of effective treatment and recovery services for those affected by alcohol and other substance abuse. In sponsoring these analyses, CSAT is attempting to gain useful insight into the fundamental question: *What actually constitutes effective (and cost-effective) treatment, and for what populations?*

Methadone treatment provides cost-effective relief from heroin's serious and potentially life-long impact upon the brain. Questions continue, however, regarding how long clients need to remain in treatment to have superior outcomes and whether clients who leave treatment can indefinitely sustain these results. This analytic summary helps address these questions.

Analytic Purpose

Since the mid-1960s, methadone has been used to treat individuals addicted to heroin and other opiates. Methadone works by altering the brain receptors that are affected by heroin. When taken in sufficient doses, methadone blocks the craving for heroin.

Prior research has shown that clients who stayed in methadone treatment for longer periods had more favorable outcomes than clients who stayed for shorter periods. The current analysis seeks to replicate, and therefore further substantiate, the findings from the prior research. In addition, the NTIES data provides the opportunity to assess the sustainability of the methadone treatment outcomes, since clients in the

NTIES sample had varying lengths of time between treatment exit and follow-up data collection.

This analysis was designed to answer the following questions:

- Does a longer stay in treatment produce better outcomes than a shorter stay in treatment?
- Do these treatment benefits persist over relatively long (versus short) follow-up periods?

Analytic Approach

In the NTIES sample, a total of 422 clients had received methadone treatment. The number of months in methadone treatment varied from 1 month to 16 months. Also, the number of months between treatment exit and follow-up data collection varied from 6 months to 11 months. Therefore, to conduct the analysis, the total of 422 clients were grouped; the groupings are presented in Exhibit 1.

Two types of analysis were conducted:

- To determine the effect of treatment length on treatment outcomes, outcomes were compared for clients who remained in treatment longer than 12 months, 3-12 months, and less than 3 months.
- To determine the persistence of the treatment effects, follow-up outcome data from clients in the short follow-up groups were compared to the follow-up outcome data from clients in the longer follow-up groups.



Methadone Treatment Outcomes in the National Treatment Improvement Evaluation Study (NTIES) (cont.)

Four types of client outcomes were assessed:

- Heroin, cocaine, and crack use
- HIV/AIDS risk behaviors
- Criminal behaviors
- Employment and wages.



Exhibit 1 Average Number of Months in Treatment and Average Number of Months Between Treatment and Follow-up			
Group	Sample Size	Avg. No. of Months in Treatment	Avg. No. of Months Treatment to Follow-up
Group 1: Long stay/short follow-up	144	16	6
Group 2: Medium stay/short follow-up	98	7	6
Group 3: Medium stay/long follow-up	85	5	11
Group 4: Short stay/long follow-up	95	1	11

Four types of client outcomes were assessed:

- Drug use: heroin, cocaine, and crack use in past 30 days and for entire period between treatment and follow-up
- HIV/AIDS risk behaviors: needle sharing and having sex with multiple partners.
- Criminal behaviors: currently involved with justice system; being arrested for any offense; being arrested for drug possession, selling drugs, shoplifting.
- Employment and wages: current employment status; earning wages; receiving welfare.

Statistics: Logistic regression was the principal analytic procedure used. A mathematical equation was used to predict specific behaviors at follow-up, such as heroin use. Demographic characteristics and the likelihood of the follow-up behaviors occurring at treatment admission were statistically controlled.

Findings

Overall, the analysis showed that clients who were maintained on methadone for 12 or more months were more likely to abstain from drug use than clients who were discharged prior to 12 months of methadone treatment. Clients with 3 to 12 months of methadone treatment, in comparison to those with less than 3 months of methadone treatment, also were more likely to abstain from drug use. These differences, however, were evident within a 6 month follow-up period but disappeared with a longer follow-up period. Specific findings from the analysis are summarized below.

Treatment Duration

The first analysis question was:

Does a longer stay in methadone treatment produce better outcomes than a shorter stay in treatment?

In answering the first question, the analyses showed that longer lengths of stay resulted in better outcomes. Specifically, when clients whose average lengths of stay in methadone treat-

Methadone Treatment Outcomes in the National Treatment Improvement Evaluation Study (NTIES) (cont.)

Longer lengths of stay in methadone treatment resulted in better outcomes after clients left treatment:

- No heroin, cocaine, or crack use
- No high risk HIV/AIDS behaviors
- No criminal behavior.

The positive outcomes of treatment lasted only about 6 months after clients left treatment.



ment was 16 months were compared with clients whose average lengths of stay was 1 month, the former clients were more likely to have the following outcomes during the follow-up period:

- No heroin, cocaine, or crack use
- No high risk behaviors
- No criminal behavior.

Persistence of Treatment Effects

The second analysis question was: **Do treatment benefits persist over relatively long (versus) short follow-up periods?**

The comparison of the short follow-up period groups with the longer follow-up period group suggested that the positive outcomes of treatment persist for short follow-up periods, only. Specifically, when the outcomes for the medium stay/short follow-up clients were compared to the medium stay/long follow-up period clients, the short follow-up group was more likely than the long follow-up group to have the following outcomes:

- No heroin use in the entire follow-up period
- No crack or cocaine use in the entire follow-up period
- No current court involvement
- No high risk sexual behaviors
- No arrests for any offense in the entire follow-up period
- No drug sales or shoplifting in the entire follow-up period.

Implications

The results of these analyses provide additional evidence of significant benefits of methadone treatment for clients treated for 12 months, relative to clients treated less than 3 months. The benefits may only be sustained following discharge, however, for relatively short periods of time (e.g., 6 months).

Implications for Research/Analysis

The results have several implications for treatment follow-up studies.

- In designing studies, researchers should **include a range of follow-up reference periods**. The persistence of outcomes across these periods should be systematically assessed. Such a design would allow us to determine whether the favorable outcomes that were evident for the longest-stay clients in the short run can be sustained for the long run.
- Analysts should attempt to **assess the specific treatment components that account for the favorable treatment outcomes**. In this regard, the extensive services data in NTIES could be explored to assess the services that were associated with the more and less favorable treatment outcomes in this study.
- Further research is needed to **assess the treatment practices that were associated with these retention differences**. For example, one factor that has been shown to affect retention in outpatient methadone treatment is the methadone dose, as

Methadone Treatment Outcomes in the National Treatment Improvement Evaluation Study (NTIES) (cont.)

These findings point to the need to:

- Design studies that include a range of follow-up periods.
- Identify specific treatment components that account for favorable outcomes.
- Assess treatment practices associated with differences in retention.
- Examine reasons for discharge.

higher doses are associated with longer retention. Although the methadone dosing data in NTIES were incomplete, the fact that the long stay/short follow-up clients, who remained in treatment the longest, had higher doses was consistent with this finding.

- **The reasons for clients leaving treatment should be examined**, to determine the extent to which the discharged clients voluntarily quit the program or were “pushed out” by staff due to non-compliance. Different retention strategies are likely to apply to each of these client groups. To the extent that the service provider maintains a “zero tolerance” policy for drug use while the client is receiving methadone and rapidly pushes out clients who fail to live up to this rigorous standard, retention in treatment is likely to be poor. In contrast, providers that fail to adequately monitor compliance with program rules and reasonable drug use standards are also not likely to be effective. Further research is needed to determine the provider-level practices that can improve the effectiveness of methadone treatment.

Implications for Policy

Findings that emerge from this analysis have several implications for policy:

- **Length of Stay.** In this analysis, **longer stays in methadone treatment were associated with reductions in drug use, and decreases in the spread of HIV/AIDS and criminal behaviors.** Methadone treatment programs may need to be

expanded to sustain clients in treatment for longer periods of time.

- The reductions in heroin and powdered cocaine use, which are frequently injected by intravenous drug users, may account for the reductions in needle sharing. In reducing intravenous drug use and needle sharing, methadone treatment helps to fight the spread of HIV/AIDS.
 - The fact that reductions in court involvement, arrests for any offense, and reported drug sales and shoplifting were associated with longer stays in methadone treatment suggests that retaining clients for longer periods in methadone treatment may have substantial cost savings for society.
 - In the current analysis, the reductions in court involved criminal behaviors were evident primarily within the groups who remained in treatment longest or had the shortest out-of-treatment stays following discharge.
- **Aftercare. Explore the effectiveness of expanding aftercare services and targeting them at clients who are discharged from methadone treatment within 3-12 months of their admission.**
 - While the findings suggest that clients who receive 3 to 12 months of treatment are likely to benefit from this treatment, these benefits are likely to be sustained for only limited periods of time. The purpose of expanding aftercare services would be to **encour-**



Methadone Treatment Outcomes in the National Treatment Improvement Evaluation Study (NTIES) (cont.)

Policy implications include:

- Expanding methadone treatment programs to sustain clients in treatment for longer periods of time.
- Exploring the effectiveness of expanding after-care services.
- Reducing barriers to employment and providing ancillary services to help clients improve their skills and find jobs.

age clients who are discharged from methadone programs to pursue outpatient treatment as appropriate.

- The present findings further suggest that prior to discharge, methadone treatment providers should **discuss with the client the client's aftercare plans and, where appropriate, refer the client to alternative treatment resources** including drug-free and 12-step programs (e.g., Narcotics Anonymous, Cocaine Anonymous, and Alcoholics Anonymous).
- **Employment.** The findings with respect to employment suggest the need to **reduce the barriers to employment that are associated with outpatient methadone treatment**, particularly for women and older clients (i.e., age 38+). The barriers to employment include health and transportation problems and for women, in particular, child care needs. The findings also suggest the need for service providers to **work with both older clients (i.e., age 38+) and women in providing needed ancillary services** to help them improve their job skills and find jobs.

Implications for Practice

Another factor that may facilitate both longer retention and increased employment in methadone treatment is increased access to and convenience of treatment. Typically, clients in outpatient methadone treatment must visit their programs 6-7 days a week for their methadone and meet with their counselors in regularly scheduled visits. In

some states, clients are permitted to self administer their methadone 1 or more days each week at home, using bottled methadone which is prepared by the service provider, i.e., "take homes." In other states, such "take homes" are highly restricted and the clients must report daily. Unless the outpatient methadone treatment program provides convenient hours for working clients, the requirement that clients visit programs daily can also present a barrier to employment.

As a further means of increasing access to and convenience of treatment, the administration of Levo-alpha-acetyl-methadol (LAAM), another synthetic analgesic, for opiate treatment should be considered for expansion. The advantage of LAAM over methadone is that while the therapeutic effects of methadone last for up to 36 hours, the effects of LAAM last for up to 72 hours. Another benefit of LAAM is its lower overall cost. LAAM's longer action makes it possible for clients to visit the clinic less often (i.e., every 2 to 3 days) without take-home dosages. A recent study comparing the costs of methadone versus LAAM found that LAAM is 2 to 4 times more expensive than methadone, but the total treatment costs would be lower since LAAM would be dispensed less often.

Future Steps

Methadone has been used for several decades in providing substance abuse treatment to individuals with heroin and other opiate addictions, both for short-term and long-term detoxification, as well as for maintenance therapy. While the use of methadone for detoxification is well accepted, controversy surrounds



Methadone Treatment Outcomes in the National Treatment Improvement Evaluation Study (NTIES) (cont.)

the concept of long-term or life-long maintenance. These findings provide support for extended lengths of treatment, expanded treatment services, expanded ancillary services, and careful attention by treatment providers to development of client aftercare plans.

In the interest of reducing barriers to employment experienced by methadone-maintained clients, it would be useful to investigate: 1) how treatment program requirements for receiving methadone impact employed clients and 2) the effect of expanding the use of LAAM (another synthetic analgesic whose length of effectiveness can be twice that of methadone), thus reducing the number of necessary visits to the treatment program. In addition, future research in this area should include a range of follow-up reference periods and systematic study of treatment outcomes at different follow-up periods.

References

Greenfield, L., *Methadone Treatment Outcomes in the National Treatment Improvement Evaluation Study*. June 1999. Prepared under the 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.

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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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