

Highlights

Substance abuse treatment is effective in reducing risk behaviors and therefore helps prevent the spread of viral infections, including HIV, other STDs, and Hepatitis C.



Effect of Substance Abuse Treatment on High Risk Behaviors



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: *The Effect of Substance Abuse Treatment on High Risk Behaviors in the National Treatment Improvement Evaluation Study* (Greenfield, L., Finkbiner, R., and Bishop, S., 2000). 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.

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Effect of Substance Abuse Treatment on High Risk Behaviors (cont.)

This analysis identifies:

- Characteristics of clients who report injection drug use and sex exchange behaviors
- Services received by different risk behavior groups
- Change in risk behaviors following treatment
- Relationships among risk behaviors and HIV/AIDS diagnosis
- Client- and provider-level variables related to risk behaviors at follow-up.



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 of the data they have collected, CSAT is attempting to gain useful insight into the fundamental question: *What constitutes effective (and cost-effective) treatment, and for what populations?*

Substance abusers who inject drugs and/or practice unsafe sexual behaviors are at particular risk for becoming infected with and for spreading serious communicable diseases. These diseases include sexually transmitted diseases (syphilis and gonorrhea), HIV/AIDS, and Hepatitis C virus (HCV). The value of substance abuse treatment in helping to reduce risk behaviors for these diseases is the focus of this paper.

Analytic Purpose

The present analysis examines risk behaviors for HIV/AIDS and other viral infections/STDs at admission and follow-up, and identifies other factors that account for changes in these risk behaviors following treatment. This analysis focused primarily on two specific types of risk behavior:

- Injection drug use
- Sex exchange.

For the purposes of this analysis, injection drug use was defined as ever using a needle to inject drugs to get high or for other non-medical effects. Sex exchange was defined as engaging in sex for money and/or drugs.

The analysis addressed the following questions:

- What were the characteristics of clients who reported IDU and/or sex exchange?
- What services were received by the different risk behavior groups?
- Were there significant changes in their risk behaviors following substance abuse treatment?
- What were the relationships among injection drug use, sex exchange, and other risk behaviors and HIV/AIDS diagnosis?
- What client and program-level variables predicted IDU, sex exchange or both at follow-up?

Analytic Approach

This analysis is based on data collected for the National Treatment Improvement Evaluation Study (NTIES) from clients in substance abuse treatment funded by the Center for Substance Abuse Treatment (CSAT). The NTIES outcome analysis sample of 4,411 clients was reduced by 709 clients who received treatment while incarcerated, leaving a total of 3,702 clients for the present analysis. Follow-up data were available on 2,671. Clients were classified into 4 risk behavior groups:

- Injection drug use (IDU) and sex exchange (n=157)
- Injection drug use only (n=594)
- Sex exchange only (n=613)
- No IDU or sex exchange (n=2,338).

Effects of Substance Abuse Treatment on High Risk Behaviors (cont.)

Clients in the IDU and sex exchange group and in the sex exchange only group tended to be:

- Females
- Blacks
- Crack users
- Older.

Clients in the IDU only and neither risk behavior groups tended to be:

- White or Hispanic
- Males.



Clients were interviewed at treatment intake about behaviors in the 12 months before being admitted into substance abuse treatment. A second interview was completed while the clients were enrolled in treatment. A final interview took place from 4 to 16 months after the client left treatment (with the exception of 143 clients in outpatient methadone treatment who remained in treatment during follow-up).

In addition to questions about injection drug use and sex exchange, clients were asked about other high risk behaviors, including:

- Having engaged in needle sharing
- Having engaged in sex with intravenous drug users
- Having engaged in sex with 10 or more partners.

Several statistical approaches were used to examine demographic variables and client characteristics, to measure changes in risk behaviors over time, and to assess the degree to which client, modality, and SDU-level variables predicted the risk behaviors.

Findings

Overall, substance abuse treatment was found to reduce the practice of injection drug use and sex exchange. Post-treatment reductions in other related health risk behaviors were also noted.

Client Characteristics at Intake

Clients in the four risk behavior groups had some distinguishing characteristics at intake to substance abuse treatment.

- The IDU only and IDU/sex exchange clients were older than clients in the other two groups.
- There were much higher percentages of females and blacks in the IDU and sex exchange and sex exchange only groups.

Over two-thirds of the clients reporting either risk behavior had been in drug treatment before, compared to 41 percent of clients reporting neither behavior.

As expected, past 30-day use of drugs that are readily injectable (heroin and powdered cocaine) was highest among injection drug users, while crack cocaine use was highest among clients who reported sex exchange behaviors at intake.

Services Received

Clients most frequently reported that they received medical services (60%), other drug and alcohol counseling (47%), assertiveness training (43%) and transportation services (41%). There were notable differences in client reports of services received:

- Clients in the IDU only group, primarily white male heroin/cocaine users in methadone treatment settings, reported the lowest frequency of services received. They also reported being in contact with their primary providers the least often and for the shortest amounts of time.
- Clients in the sex exchange only group, primarily black female crack cocaine users in residential treatment settings, received the highest levels of treatment services. Over half of these clients received assertiveness training and transportation services.

Effects of Substance Abuse Treatment on High Risk Behaviors (cont.)

Changes in in Risk Behaviors

After treatment, the percentages of clients reporting IDU or sex exchange were much lower, and the percentage of clients reporting neither risk behavior increased. At follow-up:

- The percentage of clients reporting only IDU declined from 18 percent to 12 percent.
- The percentage of clients reporting only sex exchange declined from 15 percent to 4 percent.
- The percentage of clients reporting both IDU and sex exchange declined from 5 percent to 1 percent.

The biggest shift, however, was in the number of clients who reported they did not engage in either IDU or sex exchange after treatment. The percentage rose from 62 percent to 83 percent – i.e., 8 out of 10 clients reported abstention from the targeted risk behaviors at follow-up.

Significant reductions in heroin, cocaine and crack use were found for all risk behavior groups. Compared to rates of past 30-day use in the pre-treatment period, rates of use during follow-up declined:

- Among clients in the IDU and sex exchange group, heroin use dropped from 50 percent before treatment to 30 percent after treatment.
- Among IDU only clients, heroin use dropped from 68 percent before treatment to 35 percent after treatment.
- Among clients in the sex exchange only and neither behavior groups, there was significant reduction in heroin use, which was low before treatment.

Clients in all four risk behavior groups reduced use of crack and powdered cocaine.

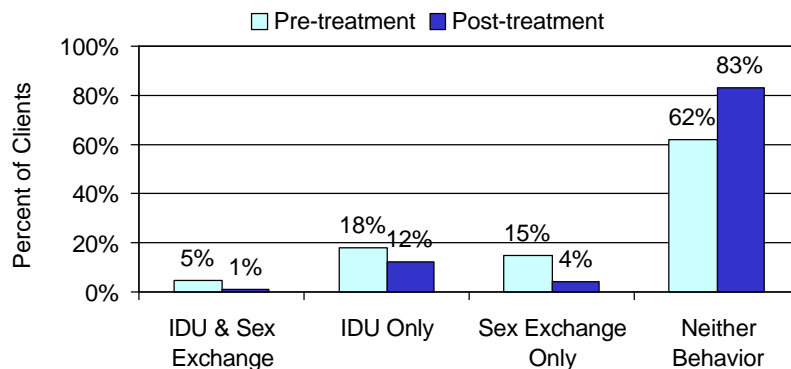
Other risk behaviors also declined:

- For the two groups that included IDU, the frequency of needle sharing also declined.
- Reports of sex with an intravenous drug user decreased significantly for all groups.
- Rates of having sex with multiple partners (10 or more) also decreased following treatment.

After treatment, fewer clients reported:

- Injection drug use or sex exchange
- Needle sharing
- Sex with intravenous drug-users
- Sex with multiple partners
- Use of heroin, cocaine, and crack.

Exhibit 1
Percentage of Clients Reporting IDU and Sex Exchange Behaviors Pre- and Post-treatment



Multiple substance use was the strongest factor associated with injection drug use and sex exchange.

Clients were less likely to engage in risk behaviors after treatment if they:

- Had frequent individual outpatient counseling
- Stayed in treatment longer
- Reported few risk behaviors before treatment
- Were not heroin or cocaine users.



Effect of Substance Abuse Treatment on High Risk Behaviors (cont.)

Relationships Between Risk Behaviors

Clients who reported either injection drug use and/or sex exchange behaviors were more likely to engage in related risk behaviors or to report a positive HIV/AIDS diagnosis than clients reporting neither behavior.

Compared to the group of clients who reported no IDU or sex exchange at intake, the odds of reporting sex with an IDU were 30 times higher among clients who reported IDU and sex exchange behaviors, 10 times higher among clients who reported only IDU, and 3 times higher among clients who reported only sex exchange.

A reported HIV/AIDS diagnosis was significantly more likely to be found among clients who reported both injection drug use and sex exchange or who reported IDU only behavior.

Factors Associated with Pre-treatment Risk Behaviors

Multiple substance use (e.g., clients reporting both heroin and cocaine/crack use) was the strongest factor associated with injection drug use and sex exchange.

Clients who were older, homeless and court involved were also more likely to engage in the high risk behaviors of IDU and sex exchange.

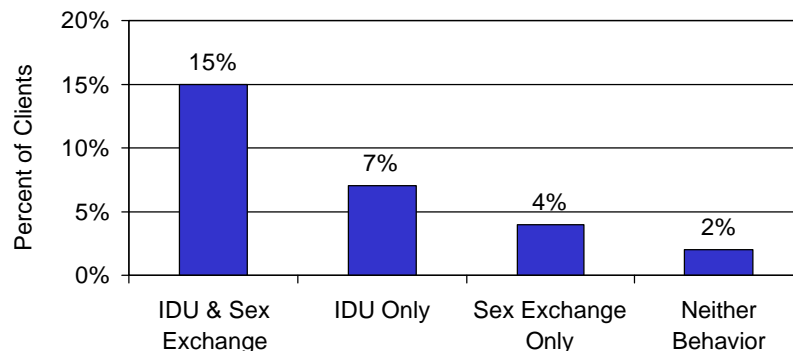
Factors Predicting Lower Risk Behaviors at Follow-up

The provider level and client factors associated with reduced risk behaviors at follow-up were:

- **More frequent individual outpatient counseling.** Counseling was associated with lower risk behaviors only for clients in non-methadone outpatient treatment.
- **Treatment in settings other than methadone treatment.** Clients in outpatient methadone treatment were more likely to practice risk behaviors at follow-up.
- **Longer length of stay.** With each 1-month increase in length of stay, clients were 9 percent less likely to practice risk behaviors at follow-up.

While counseling, treatment setting, and treatment duration were related to post-treatment risks, the single most important predictor of risk behaviors at follow-up was the client's level of risk behaviors before treatment.

Exhibit 2
Percentage of Clients Reporting HIV/AIDS
by Risk Behavior Group
(N = 3,702)



Implications:

Researchers should replicate analyses with larger samples, comparison groups, and multiple follow-up points.

Policy makers should expand access to substance abuse treatment as a means of reducing health-related risk behaviors.

Treatment practitioners should increase intensity of individual counseling and contacts with primary providers for injection drug users.



Effect of Substance Abuse Treatment on High Risk Behaviors (cont.)

Implications

The findings from this analysis can lay a framework for future work by scientists, policy makers, and treatment practitioners.

Implications for Research

Implications for further research and analysis have to do with expansion of client sampling, inclusion of biological markers, and consideration of additional client variables.

- **Replicate analyses with larger samples, comparison groups, and multiple follow-up points.** Expanded evaluation efforts are needed to assess relationships between substance abuse, risk behaviors, treatment services and outcomes.
- **Expand sampling design to include untreated comparison groups.** This design will help rule out the possibility that observed changes may have occurred with out treatment.
- **Supplement self report with biological markers.** Urinalysis results, for example, can be useful in validating reported changes in drug use and, by extension, risk behaviors.
- **Include other important client variables.** Treatment readiness, for example, is a factor that could affect length of stay and client-counselor relationship. Psychiatric comorbidity is another variable that has been linked to high risk behaviors.

Implications for Policy

Increased efforts are needed to improve the effectiveness of treatment by expanding clients' access to treatment services and by increasing clients' length of stay in treatment. Policy makers should:

- **Expand access to substance abuse treatment in all modalities.** This recommendation is supported by the findings that drug use and associated risk behaviors (needle sharing, sex with an IDU, sex with multiple partners) were significantly reduced following treatment.
- **Support longer stays in treatment, especially for clients in methadone outpatient settings.** The need to increase client lengths of stay in substance abuse treatment may be particularly important for methadone outpatient modalities where clients are at greater risk of continued injection drug use.

Implications for Practice

The findings of this analysis have major implications for targeting services, providing individual counseling services, and assessing client needs for expanded treatment services.

Treatment practitioners should:

- **Target services to high-risk behavior groups.** Clients who report IDU and sex exchange behaviors should be provided preventive services including HIV/AIDS education and counseling and IV testing.

Effect of Substance Abuse Treatment on High Risk Behaviors (cont.)

- **Increase frequency of individual counseling services among non-methadone outpatient clients.** The frequency of individual counseling services should be increased for substance abusers who report injection drug use and/or sex exchange at intake. Clients in SDUs that offered more frequent counseling had 40 percent lower odds of continued engagement in their risk behaviors at follow-up.
- **Develop better profiles of high-risk clients.** Better methods of assessing service needs of clients ought to be developed to achieve reductions in risk behaviors after treatment. The present analysis found that injection drug use was associated with use of multiple substances, homelessness, and physical abuse. To the extent that clients who fit the behavioral profiles can be identified, appropriate services can be offered.

Future Steps

Secondary analysis of the NTIES data provides insight into the relationship of substance abuse and other high risk behaviors. High-risk injection drug use and sex behaviors contribute to the spread of HIV/AIDS, Hepatitis C and other infectious diseases for which there is little effective treatment.

This analysis and other studies have indicated that substance abuse treatment can make an important contribution in preventing the high risk behaviors that may spread these infectious diseases. Further research and program development can strengthen access to treatment and preventive services targeted to high-risk populations.

References

Greenfield, L., Finkbiner, R., Bishop, S. (2000). *The Effect of Substance Abuse Treatment on High Risk Behaviors in the National Treatment Improvement Evaluation Study*. Prepared under Contract No. 270-97-7016 for the Center of Substance Abuse Treatment. Fairfax, VA: Caliber Associates.

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>**

The author of this Analytic Summary is Jean Strohl.

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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 treatment services 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: at treatment intake, at treatment exit, and 12 months after treatment exit.



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