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## Drug Treatment Outcomes for Persons on Waiting Lists

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### Abstract

This study examined treatment access and outcomes for persons placed on drug abuse treatment waiting lists. Participants (n=170) were recruited when they entered either a methadone detoxification program or a day treatment program, and were waiting for methadone maintenance or residential treatment, respectively. Participants were interviewed at baseline and 2-months follow-up. Excluding the index treatment episode, 73% received some treatment during the follow-up period. Mixed effects regression was used to compare short-term outcomes for clients who did and did not enter treatment following the index episode. We found increased drug problems, over time, for all participants. Those enrolled in treatment at follow-up reported higher employment problems (collapsed across time) compared with those not in treatment. Last, participants enrolled in any subsequent treatment showed a decrease in psychiatric problems over time, while those not enrolled in subsequent treatment showed an increase in psychiatric problems. Participants who entered treatment within 60 days after being placed on a waiting list showed improvement on psychiatric measures but not on substance abuse measures.

### Keywords

waiting list; drug abuse treatment

### Introduction

Drug treatment is generally effective and early treatment entry has been associated with positive outcomes in drug use and social functioning (1). The Office of National Drug Control Policy estimated that 23.5 million people aged 12 and over were in need of drug treatment in 2004 while only 10% of those in need received such treatment. Among those who did not receive the needed services, a shortage of drug treatment was given as the cause in 25% of cases (2).

When treatment access is limited, those seeking treatment may be placed on waiting lists (3). Timely treatment access is important to people with drug problems due to their ambivalence about seeking treatment, low tolerance for waiting, and continuing drug use while on waiting lists (4–6). Research has shown that 25–50% of persons on waiting lists are never admitted to treatment and that longer wait times decrease the likelihood of treatment entry (7–10). Kaplan and Johri found that the average wait tolerance of people awaiting drug treatment is one month, and about 40% drop off of a waiting list within two weeks (6).

The current study reports accessibility to treatment and short-term outcomes among individuals seeking drug treatment at two clinics. Participants were enrolled in either methadone detoxification services or day treatment services, and were waiting for treatment in methadone maintenance or residential programs, respectively. Participants were interviewed at entry into the initial treatment setting, and again at a two-month follow-up to assess treatment access and short-term outcomes. The research question was whether persons who moved from the waiting list into subsequent treatment experienced better outcomes than those who did not.

## Methods

### Participants

Participants (n=170) were persons waiting for treatment at two community-based drug treatment programs in San Francisco between the period of June 1999 and May 2001. Half of the sample (n=85) was recruited from a methadone detoxification program. In addition to methadone detoxification, this agency provided methadone maintenance services, and persons entering detoxification were placed on a waiting list for methadone maintenance. Half of the sample (n=85) was recruited from a day treatment program, also a part of a larger drug treatment agency operating residential therapeutic community (TC) services, and persons entering day treatment were placed on a waiting list for residential TC services.

### Measures

All data were collected in face-to-face interviews using the Addiction Severity Index (ASI) LITE, an abbreviated version of the ASI (11–12). The ASI measures problem severity in seven areas (medical, legal, drug, alcohol, psychological, employment, social). ASI composites are derived from questions in each area, using formulae to weight the items (13). Composite scores, computed using values from 0 to 1, reflect problem severity in each of 7 areas, during the 30 days preceding the interview (14). Participants were interviewed using the ASI at baseline and two-months follow-up. Treatment access was measured using one question administered at follow-up: Have you been to a treatment program since we last spoke? Participants also indicated name of program where they had received subsequent treatment.

### Procedures

One research interviewer was stationed at each clinic during the part of each workday when the program conducted intake assessments for new clients, so that research interviewers had regular and consistent contact with intake staff in the study clinics, and efforts were made to recruit every new admission into the methadone detoxification program and into the day treatment program. Baseline interviews were conducted within one week of this initial contact. Upon completion of the baseline interview, the research assistant completed a tracking form with information on how to contact the participant for the follow-up interview. Sixty days after baseline, the participant was contacted by phone to schedule a follow-up interview. All study procedures were approved by the University of California, San Francisco, Institutional Review Board.

### Data Analysis

Demographic characteristics and ASI composite scores were compared between the two recruitment sites at baseline, to evaluate site differences. Using the treatment access question described, 144 participants were located and re-interviewed at two-months (85% follow-up rate) and were classified as having enrolled in any subsequent treatment (n=105) or no subsequent treatment (n=39). To assess changes in outcomes over time and differences in changes between treatment status, we applied mixed effects regression analyses (15) for each ASI composite score, including factors for time (baseline, follow-up), treatment status (defined

as some vs. no treatment), and the treatment status-by-time interaction. The analyses controlled for site (methadone detoxification vs. day treatment) and included site, site-by-time, treatment-by-site, and treatment-by-site-by-time interaction effects. Because treatment status was determined based on the follow-up interview, only those interviewed at follow-up ( $n=144$ ) were included in these analyses. A bootstrapping approach was applied to ASI composite score data, as recommended by Delucchi and Bostrom (16), because ASI composite scores are heavily skewed by zero values (17–18). Bootstrapping procedures estimate standard errors of coefficients with abnormal distributions (19).

## Results

### Comparison of Sites at Baseline

Participants recruited from the two study sites were similar in terms of gender, age, ethnicity, and education. A quarter of participants were women. Participants had a mean age of 41.5 years ( $SD=8.4$ ) and a mean education of 12.5 years ( $SD=2.1$ ). The sample was ethnically diverse including African American (50%), White (29%), Latinos (10%), and persons of other ethnicities (11%), and ethnicity did not differ significantly by site. Those recruited from methadone detoxification however, were older ( $\bar{x}=44.3$  vs.  $\bar{x}=38.7$ ,  $t = -4.5$ ,  $p < .001$ ), more often reported a history of injection drug use (92% vs. 29%,  $\chi^2=69.20$ ,  $p < .001$ ) and incarceration (82% vs. 68%,  $\chi^2=4.55$ ,  $p=0.33$ ), and spent fewer days in jail during the 30 days preceding baseline ( $\bar{x}=0.4$  vs.  $\bar{x}=2.3$ ,  $t=2.4$ ,  $p=0.21$ ).

### Outcome Analyses

**Treatment Status**—A total of 144 participants (85%) were interviewed at the two-month follow-up. Follow-up rates were 80% for those recruited from day treatment and 87% for those recruited from methadone detoxification, and did not differ significantly by site. About 73% ( $n=105$ ) had entered subsequent treatment during the two-month follow-up period. Specifically, and for both sites combined ( $n=105$ ), 37% had enrolled in residential treatment, 21% in methadone detoxification, 11% in outpatient treatment, 4% in methadone maintenance, and 1% in a jail-based treatment setting. About 5% had enrolled in methadone treatment but modality (detoxification or maintenance) was unknown. Last, type of treatment was unknown for 21% of those enrolled in subsequent treatment. Those recruited from the day treatment program were more likely to be enrolled in subsequent treatment at follow-up (85% vs. 62%,  $\chi^2=10.0$ ,  $p=0.002$ ).

**ASI Composite Scores**—Analyses of ASI outcome measures are summarized in Table 1. ASI composite scores were compared based on participants' treatment status at follow-up. This analysis was designed to assess whether change from baseline to follow-up was different between participants who did ( $n=105$ ) and did not ( $n=39$ ) enroll in any subsequent treatment. A significant treatment status-by-time interaction was found for the ASI psychiatric score, such that clients who were enrolled in any subsequent treatment at follow-up also had higher ASI psychiatric scores at baseline, compared to those who did not enroll in subsequent treatment. Further, participants who had enrolled in any subsequent treatment showed a decrease in psychiatric problems over time, while those who had not enrolled in subsequent treatment showed an increase in severity of psychiatric problems ( $p = 0.034$ ). Time effects were observed for the ASI drug composite ( $p = 0.049$ ), reflecting increased drug problems, over time, for all participants. A treatment status effect was found for the ASI employment composite ( $p = 0.042$ ), suggesting that clients enrolled in some treatment at follow-up were estimated to be 0.11 higher on the ASI employment score (collapsed across time) compared with those who did not enter treatment.

## Discussion

This study examined access to treatment and short-term outcomes among individuals seeking drug treatment at two clinics. Among those interviewed at follow-up, 73% had enrolled in some treatment in the two months since their baseline interview, and 27% had not enrolled in any subsequent treatment. While our observation window was restricted to two-months only, this is consistent with prior research showing that 25–50% of persons on waiting lists are never admitted to treatment (8–11). There were significant differences in treatment status at follow-up, based on where participants were initially recruited. Participants recruited from day treatment were more likely to enter into any subsequent treatment than those recruited from methadone detoxification (85% vs. 62%). This may be due to the greater availability of residential treatment slots relative to methadone maintenance slots in the local treatment system at the time the study was conducted.

When outcomes were compared between participants who received any treatment subsequent to baseline and those who received no treatment, a significant treatment status-by-time interaction was found for the ASI Psychiatric composite. Clients enrolled in some treatment at follow-up showed a decrease in psychiatric problems over time, while those receiving no treatment showed an increase in psychiatric problems. Participants who received some subsequent treatment at follow-up reported higher psychiatric problems at baseline, compared to those who received no subsequent treatment. This suggests that participants with more psychiatric symptoms were more likely to get into subsequent treatment than were their counterparts with fewer psychiatric problems. This could occur through greater persistence or motivation of those with more psychiatric symptoms, or if the programs offered some preferential admission to persons having comorbid psychiatric problems.

Drug problem severity worsened for the sample as a whole, even though there is some evidence that drug problems improved for the subset who received subsequent treatment. This may occur because treatment related improvements on the drug measure were small and non-significant, while drug problems worsened substantially for those who did not receive subsequent treatment. Participants enrolled in some treatment at follow-up reported higher employment problems (collapsed across time) compared with those who did not enter treatment. The largest proportion of participants who entered treatment entered residential treatment. The particular residential program where most participants entered treatment does not allow outside employment during the initial months of treatment, and this could account for increased severity on the ASI employment measure.

Because of the short observation window, findings may not adequately represent treatment effects, or may represent those effects only for the initial period of treatment. We know only that participants were on a treatment waiting list at baseline and were, or were not, enrolled in subsequent treatment two-months later. Actual length of time in the subsequent treatment is unknown, but participants may have been in treatment, at the time of follow-up, from as little as one day to as many as 59 days. Using the middle of this range (30 days) as an estimate would mean that follow-up ASI measures reflected only very recent treatment effects, and could explain the absence of significant change in some outcomes even for those who entered subsequent treatment. The findings reported here also have limited generalizability because the study included only two clinics in San Francisco. Because of the structure of the questions used in the survey, we have limited information concerning the nature of subsequent treatment received.

These limitations notwithstanding, this study recruited and followed a sample of persons on waiting lists for drug treatment in two different programs. “Waiting list” was used in this study in the same way that it is used in the San Francisco drug treatment system, to reflect persons

currently enrolled in short-term or temporary treatment and who are waiting for openings in longer-term treatment. Being placed on a treatment waiting list does not always mean waiting for treatment without benefit of any therapeutic support. For persons placed on waiting lists, this study found decreased psychiatric symptoms associated with entering any treatment over a brief time period. These findings add to a small literature concerning drug treatment waiting lists by defining the “waiting list” as used in practice in one treatment system, by showing that a large proportion of participants placed on waiting lists enter treatment in a defined time period, and by demonstrating short-term improvement for psychiatric outcomes among those entering treatment from waiting lists.

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## Reference

1. McLellan AT, Woody GE, Metzger D. Evaluating the effectiveness of addiction treatments: reasonable expectations, appropriate comparisons. *Milbank Quarterly* 1996;74:51–85. [PubMed: 8596524]
2. The Office of National Drug Control Policy. 2004 National Survey on Drug Use & Health: Results. 2000. Available at <http://www.drugabusestatistics.samhsa.gov/nsduh/2k4nsduh/2k4Results/2k4Results.htm>
3. Sorensen JL, Gudyish JR, Zilavy P, Davis T, Gleghorn A, Jacoby M, Sears C. Access to drug abuse treatment under treatment on demand policy in San Francisco. *Am J Drug Alcohol Abuse*. in press.
4. Rosenbaum M. The demedicalization of methadone maintenance. *J Psychoactive Drugs* 1995;27:45–49.
5. Graham K, Brett PJ, Bois C. Treatment entry and engagement: A study of the process at assessment/referral centers. *Contemporary Drug Problems* 1995;22:61–104.
6. Kaplan EH, Johri M. Treatment on demand: an operational model. *Health Care Management Science* 2000;3:171–183. [PubMed: 10907320]
7. Stark MJ, Campbell BK, Brinkerhoff CV. “Hello, May I Help You” A study of attrition prevention at the time of the first phone contact with substance-abusing clients. *Am J Drug Alcohol Abuse* 1990;16:67–76. [PubMed: 2330937]
8. Donovan DM, Rosengren DB, Downey L, Cox GB, Sloan KL. Attrition prevention with individual awaiting publicly funded drug treatment. *Addiction* 2001;96:1149–1160. [PubMed: 11487421]
9. Festinger DS, Lamb RJ, Kountz MR, Kirby KC, Marlow D. Pretreatment dropouts as a function of treatment delay and client variables. *Addic Behav* 1995;20:111–115.
10. Hser YI, Maglione M, Polinsky ML, Anglin MD. Predicting drug treatment entry among treatment-seeking individuals. *J Sub Abuse Treat* 1998;15:213–220.
11. McLellan AT, Luborsky L, Woody GE, O’Brien CP. An improved diagnostic evaluation instrument for substance abuse patients. The Addiction Severity Index. *J Nerv Mental Disorders* 1980;168(1): 26–33.
12. McLellan AT, Kushner H, Metzger D, Peters F, Smith I, Grissom G, Pettinati H. The fifth edition of the Addiction Severity Index. *J Sub Abuse Treatment* 1992;9:199–213.
13. McGahan, P.; Griffith, J.; McLellan, AT. Composite Scores for the Addiction Severity Index: Manual and Computer Software. Philadelphia, PA: Veterans Administration Press; 1986.
14. McLellan, AT.; Luborsky, L.; Cacciola, J.; Griffith, J.; McGahan, P.; O’Brien, C. U.S. Department of Health and Human Services (DHHS Pub. No. ADM 85-1419). Washington, DC: U.S. Government Printing Office; 1985. Guide to the Addiction Severity Index: Background, Administration, and Field Testing Results.

15. Littell, RC.; Milliken, GA.; Stroup, WW.; Wolfinger, RD. SAS® System for Mixed Models. Cary, NC: SAS Institute Inc; 1996.
16. Delucchi KL, Bostrom A. Methods for analysis of skewed data distributions in psychiatric clinical studies: Working with many zero values. *Am J Psychiatry* 2004;161:1159–1168. [PubMed: 15229044]
17. Chan M, Guldish J, Prem R, Jessup MA, Cervantes A, Bostrom A. Evaluation of probation case management (PCM) for drug-involved women offenders. *Crime & Delinquency* 2005;51:447–469.
18. Guldish J, Ponath C, Bostrom A, Campbell K, Barron N. Effects of losing SSI benefits on standard drug and alcohol outcome measures. *Contemporary Drug Problems* 2003;30:169–193.
19. Efron, B.; Tibshirani, RJ. *An Introduction to the Bootstrap*. New York, NY: Chapman & Hall; 1993.

**Table 1**Comparison of Outcomes for Participants Receiving No Treatment (N=39) vs. Some Treatment (N=105)<sup>†</sup>

Outcomes	Time	TX	TX* Time
	Parameter Estimate (95% CI)	Parameter Estimate (95% CI)	Parameter Estimate (95% CI)
Alcohol	0.01 (-0.04 - 0.52)	0.004 (-0.08 - 0.13)	-0.04 (-0.12 - 0.02)
Drugs	0.04* (0.00 - 0.08)	-0.04 (-0.10 - 0.02)	-0.02 (-0.09 - 0.05)
Medical	0.01 (-0.10 - 0.12)	-0.07 (-0.25 - 0.13)	0.17 (-0.04 - 0.36)
Employment	0.01 (-0.04 - 0.05)	0.11* (0.00 - 0.21)	-0.03 (-0.12 - 0.04)
Legal	0.02 (-0.02 - 0.07)	-0.01 (-0.09 - 0.08)	-0.06 (-0.15 - 0.02)
Social	0.01 (-0.05 - 0.07)	-0.03 (-0.12 - 0.07)	-0.01 (-0.10 - 0.07)
Psychiatric	0.05 (-0.0002 - 0.11)	-0.003 (-0.10 - 0.11)	-0.11* (-0.21 - -0.01)

\* p &lt;.05

<sup>†</sup>Time, treatment, and treatment-by-time factors were analyzed in this model that also included site, site-by-time, treatment-by-site, and treatment-by-site-by-time.