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Drug treatment participation and retention rates among former recipients of Supplemental Security Income for drug addiction and alcoholism

BY JAMES A. SWARTZ, KEVIN CAMPBELL,
JIM BAUMOHL, AND PEGGY TONKIN

This study examined drug treatment participation and retention rates for a multisite sample of 1,586 former recipients of Supplemental Security Income (SSI) for drug addiction and alcoholism (DA&A). Fewer than half of the sample were complying with the DA&A program treatment mandate at the time the program was terminated by federal legislation in January 1997. For all forms of treatment, both participation and retention rates declined steadily thereafter until fewer than 10% of the total sample reported being in a formal treatment two years after termination of the mandate. Survival analyses comparing treatment retention rates for DA&A beneficiaries with non-DA&A SSI beneficiaries revealed that most of the decline in treatment retention could be attributed to ending the mandate. The findings

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suggest that although the mandate was often not well enforced, it did bring into drug treatment many individuals who would not otherwise have participated.

In this paper we examine how the discontinuation of the Supplemental Security Income (SSI) drug addiction and alcoholism (DA&A) impairment category affected subsequent drug and alcohol treatment retention and participation rates among former beneficiaries. We examine the characteristics of those who were in treatment versus those who were not at the time DA&A benefits ended, focusing on the utilization and retention rates of former DA&A recipients whom we identify as heavier drug or alcohol users and consequently most in need of treatment. As an important context for our analyses, we begin by reviewing the Social Security Administration's implementation and monitoring of the mandate that DA&A recipients participate in treatment.

Background

From its implementation in January 1974 until the end of the DA&A program in January 1997, SSI provided income to very poor individuals disabled by addiction to alcohol and/or other drugs. In the vast majority of cases, SSI eligibility was linked to Medicaid eligibility, thus providing a package of income maintenance and health insurance benefits. For DA&A recipients, continuing SSI eligibility was contingent upon their involvement in appropriate and available treatment. Noncompliance with this treatment mandate could result in the suspension of benefits.¹ Additionally, DA&A recipients who successfully completed treatment were required to undergo a continuing disability review (CDR) to determine if they remained disabled and thus eligible for benefits.

Treatment
utilization by
the SSI DA&A
population
prior to
January 1997

Before 1995, compliance with the treatment requirement was not well monitored. Many recipients were not referred to appropriate treatment facilities, and the Social Security Administration (SSA) rarely monitored those who were in treatment. As a result, the SSA rarely suspended benefits when the treatment mandate was ignored and subjected few cases to a CDR when treatment was successfully completed. Since the SSA could not terminate benefits without a CDR, many DA&A recipients remained on the rolls even after completing treatment. To address these deficiencies, in 1993 the SSA began to greatly expand its network of referral and monitoring agencies (RMAs), funded by contracts with state agencies and private organizations. The SSA charged RMAs with assessing DA&A recipients, referring them to appropriate available treatment, and reporting on treatment progress. By January 1995 twelve contractors covered DA&A beneficiaries in 46 states. Because 1994 reforms brought Social Security Disability Insurance recipients under the treatment mandate, in September 1995 the SSA terminated the initial twelve contracts and awarded nine new ones to provide services to DA&A recipients in each state, the District of Columbia, and Puerto Rico. In March 1996 the enactment of P.L. 104-121 eliminated the DA&A classification and its related treatment mandate effective January 1, 1997. This marked the end of the RMA system.

There is very little evidence on the extent to which the SSI DA&A population complied with the treatment mandate. A 1994 report from the General Accounting Office concluded: "The vast majority of addicts receiving disability benefits are either not in treatment or their treatment status is unknown" (GAO, 1994:1). The SSA reported that in 1994 only one-third of SSI DA&A recipients were in treatment, and that in September 1995 only 34% of DA&A recipients referred to RMAs were in treatment. An audit of RMA contracts by the SSA concluded that, for a variety of reasons, "weaknesses in the design of the monitoring contracts did not allow the SSA

to manage the contracts and monitor contractor performance in accordance with the ultimate goal of the program” (SSA, 1997:5).

As a result of referral and monitoring difficulties and a backlog of CDRs, when the DA&A program ended in January 1997, those affected by the change formed a heterogeneous group with respect to their current and recent substance use and their relationship with treatment. Some individuals who had not used alcohol or other drugs for some time and had no reason to participate in treatment did have severe chronic impairment(s) that ensured continuing eligibility for SSI. Others, probably a smaller group, had recently completed treatment and were no longer using alcohol or other drugs, but they continued to receive DA&A benefits because of the CDR backlog. Others were in the midst of treatment because of the mandate, often still drinking and/or using while being treated. Still others were actively drinking and/or using, had no intention of complying with the mandate, but continued to receive DA&A benefits through the end of 1996 because program oversight deteriorated with the imminent termination.

This complexity makes it difficult to evaluate the effects of the program’s termination on treatment utilization and retention rates per se. Clearly, some individuals no longer needed treatment when they lost their benefits; others were completing treatment or had been in treatment for some time and were ready to move on. Still others, despite their apparent need, would not have entered treatment even if the program had continued. Lacking suitable background data on DA&A recipients, we cannot confidently assign SSI Study respondents to any of these categories.

Adding to the complexity of evaluating treatment retention and utilization post-program termination is the fact that access to substance abuse treatment and the ability to pay for it depended on where the former beneficiary lived. For example, while some former DA&A recipients requalified for SSI

under a different impairment category and hence retained Medicaid benefits to pay for treatment, some who did not requalify retained Medicaid benefits because of their state's (or even county's) Medicaid policy (see Podus et al., this issue). In some states (or counties), those without Medicaid could gain access to treatment through a relatively rich network of publicly funded programs that do not require payment with either private insurance or Medicaid. Thus, while the treatment mandate ended in January 1997, the need for treatment varied considerably among former DA&A recipients, as did their ability to pay for treatment and the necessity to do so.

Despite these issues, it is possible to examine in an approximate way the treatment courses of those in treatment when DA&A benefits ended and the subsequent treatment utilization of those who should have been in treatment based on their alcohol or drug use or self-admitted need. Through comparisons with archival data and with comparable treatment cohorts, it is also possible to parse out the effects of discontinuing the treatment mandate on subsequent treatment retention and utilization. In this article we examine these issues for a large sample of SSI DA&A recipients who received benefits in the months before the DA&A program ended. Specifically, we examine the following primary and subordinate research questions:

1. What proportion of SSI DA&A recipients participated in formal drug treatment in the six months prior to termination of the treatment mandate and in what types of treatment did they participate?
2. What DA&A recipient characteristics were associated with treatment participation just prior to termination of the mandate?
3. Did participation in self-help groups compensate for non-participation in formal treatment prior to discontinuation of the DA&A benefit category?
4. Among DA&A recipients *not* participating in formal substance abuse treatment when the DA&A program ended:

- (a) What proportion was likely in need of substance abuse treatment?
 - (b) What characteristics distinguished those in need of substance abuse treatment from those who did not need it?
 - (c) What proportion entered some form of substance abuse treatment during the 24-month follow-up period?
5. Among respondents *participating* in formal substance abuse treatment just prior to the end of the DA&A program:
- (a) What were their retention rates in different types of treatment during the follow-up?
 - (b) If the treatment retention rate in any modality was low following the end of the mandate, to what extent can attrition be attributed to the end of the mandate as opposed to the normal high attrition rates for substance abuse treatment?

Methods

The data for the analyses in this paper come from a multisite, two-year prospective study (the SSI Study) to examine the social, medical, legal, and psychological consequences of terminating DA&A benefits. Research teams conducted the study in nine sites: Portland (Oregon), Seattle, Detroit, Chicago, and, in California, Los Angeles, San Francisco, Stockton, Oakland, and San Jose. Subject selection, recruitment, sample characteristics, the survey instrument, the data collection protocol, and sample weighting are described in detail elsewhere (see Swartz, Tonkin and Baumohl, this issue).

The SSI Study sample

The full sample consisted of 1,764 DA&A beneficiaries interviewed at baseline between December 1996 and April 1997, and then reinterviewed at six-month intervals for the next two years. Subjects were eligible for the study if they received SSI DA&A benefits between March 1996 and November 1996, were between 21 and 59 years old, and were not receiving Social Security Disability Insurance (DI) concurrently

with SSI benefits. The retention rate for the study was very high, with just under 90% of the subjects interviewed at baseline completing the two-year follow-up interview ($n = 1,586$). The analyses presented here include only the 1,444 respondents who completed all five interviews (82% of the nine-site sample).

Preliminary analyses found minimal bias from attrition over the course of the study (Swartz, Tonkin and Baumohl, this issue). To explore potential bias related to the main variables of interest in this paper, we compared those who completed five interviews with those who completed fewer on their baseline status for involvement in any type of treatment or self-help program in the past six months and their participation in six treatment modalities. We also compared these groups on their perceived need for treatment at baseline. Of the 10 comparisons made, we found only two statistically significant differences between the groups: Those who completed five interviews were less likely at baseline (1.4% vs. 9.0%) to have been involved in a jail or prison treatment program ($X^2 = 23.94$; $df = 1$; $p = .000$) and were more likely (28.4% vs. 18.7%) to be involved in some type of self-help program ($X^2 = 15.47$; $df = 1$; $p = .000$). Because of these differences, we conducted parallel analyses for our main research questions using the full sample of 1,764. As these yielded the same substantive findings as those based on the smaller sample, we used the five-interview sample to permit comparisons of the same people across all interview waves. Within the limits of these analyses and outcome variables, we are confident there is no systematic attrition bias affecting our findings.

Instrument At each interview, project staff used an instrument developed for this study and described in detail by Swartz, Tonkin and Baumohl (this issue). We based our analyses on data primarily derived from the sections pertaining to Social Security status and income, alcohol and other drug use, and participation in substance abuse treatment. Some of the analyses included

covariates derived from the sections on mental and physical health and criminal involvement. Table 1 presents a detailed description of the indicators used in the analyses.

In another preliminary study, researchers at the Seattle site compared their subjects' self-reported participation in drug treatment with Washington State records of publicly funded treatment participation. Disaggregated by type of treatment (e.g., detoxification, methadone maintenance, outpatient drug free), the comparisons, save those for methadone treatment, yielded Kappa scores ranging from .41 to .56. Scores in this range indicate a moderate reporting accuracy for participation in different forms of drug treatment. For methadone treatment (MT), the Kappa scores were uniformly high, ranging from .76 to .91 (see Swartz, Tonkin and Baumohl, this issue). The primary reason for the discrepancy between self-reported treatment participation and the official records was that respondents were most likely to "overreport" treatment participation; that is, to report being in substance abuse treatment even though there was no corresponding administrative record of their participation. On the other hand, some of this error may have arisen because the Washington State database does not capture information on treatment in privately funded clinics, whether charitable or proprietary. However, based on the Washington State analysis, we believe the self-reported data are reasonably valid, though for outpatient treatment they may overstate to some extent actual treatment participation and retention.

Comparison groups' data

Washington State's Treatment and Assessment Report Generating Tool (TARGET) contains treatment service records for clients in publicly funded substance abuse treatment of any type. Data elements include admission and discharge dates and treatment modality. To examine the impact on treatment retention of removing the treatment mandate, we used TARGET data to create comparison groups comprised of Washington State's General Assistance Unemployable (GAU) disability program beneficiaries. We drew two independent

random samples of GAU beneficiaries from Washington State's TARGET data. The first was comprised of GAU beneficiaries participating in publicly funded outpatient substance abuse treatment between January 1 and June 30, 1995. These cases constituted a "pre-DA&A program termination" comparison group. We drew a second group of GAU beneficiaries from those participating in publicly funded outpatient substance abuse treatment between July 1 and December 31, 1996 (i.e., immediately prior to the end of the DA&A program).²

The TARGET data also afforded the opportunity to create additional comparison groups made up of SSI disability recipients who were not in the DA&A category. Again, we drew two independent random samples from the TARGET data based on dates of participation in treatment. We drew one group of SSI non-DA&A recipients from those participating in publicly funded outpatient substance abuse treatment between January 1 and June 30, 1995, and created the second group based on outpatient substance abuse treatment participation between July 1 and December 31, 1996. These two groups represented a population of SSI disability recipients who used drugs and were in drug treatment but would not have been influenced by a treatment mandate. We compared both the GAU and the SSI non-DA&A samples with our SSI DA&A groups to ensure there were no duplicate cases.

Weighting strategy

In the statistical models that follow, we used a three-step weighting procedure. First, based on estimates of the socio-demographic variable mix for each site's population, we weighted cases to obtain model estimates *representative* of the actual target population within each site (see Choudhry and Helba, this issue). Then we weighted cases based on the *size* of the target population within each site in order to obtain model estimates representing the full target population across all sites. Finally, we used a "normalized adjusted" sample size to maintain the observed sample size while

TABLE 1
Indicators used in the analyses

Description	Categories
Type of Substance Abuse Treatment Received (Self-help groups were not considered formal substance abuse treatment.)	1. R did not participate in formal substance abuse treatment 2. R participated in non-methadone substance abuse treatment 3. R participated in methadone maintenance
Socio-Demographic Variables	
Age	1. Less than 40 years of age 2. 40 years of age or older
Race/ethnicity	1. Caucasian 2. African-American 3. Other
Gender	1. Male 2. Female
Education	1. Less than 12 years of formal education 2. 12 years of formal education or more or GED
Marital status	1. Married 2. Unmarried

Presence of minor children in household

1. No minor children in household
2. One or more minor child in household

Need for Substance Abuse Treatment

Self-Perceived Need

1. R feels he/she needs substance abuse treatment
2. R feels he/she does not need substance abuse treatment

Type/frequency of reported drug use indicates a need for substance abuse treatment

1. Used cocaine or heroin weekly (i.e., needs treatment)
2. Didn't use cocaine/heroin weekly (i.e., doesn't need treatment)

Frequency of Substance Use

Weekly use of heroin or cocaine

1. Yes
2. No

Weekly use of alcohol

1. Yes
2. No

Weekly use of cannabis or other drugs

1. Yes
2. No

Employment Status

1. Unemployed
2. Earned less than \$500 per month
3. Earned \$500 per month or more

Involvement in the Criminal Justice System

(e.g., on probation, in jail) in the past month

1. Yes, involved with CJS
2. No CJS involvement

reflecting the influence of the prior two steps. The normalized, adjusted weights yield the same estimates as the adjusted weights, without inflating the sample size. We based all inferential statistics in our analytic models on the weighted sample data, though we report all sample sizes in terms of their unweighted values.

Analytic methods

Bivariate tests, including t-tests and F-tests for interval level data and chi-square tests for nominal level data, were run using *WesVarPC*, a software package that controls for complex design effects through a replicate sampling strategy (Westat, 2001). Because of suspected differences across sites, we also used the SAS *CATMOD* procedure to check for interaction effects in our bivariate models. When none of these effects proved statistically significant, we collapsed the data across sites and ran the analyses on the aggregate sample using *WesVar*. Finally, we ran logistic regression analyses using the SAS *GENMOD* procedure and used SAS's *Proc PHREG* to run Cox Regression survival analyses to compare pre- and post-mandate retention rates.

Results

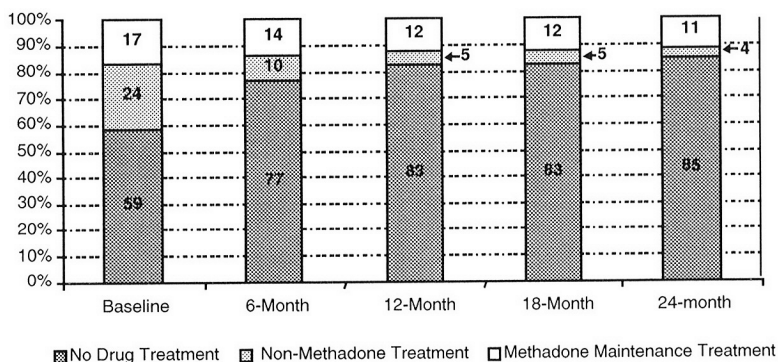
In our research questions and in the analyses that follow, we distinguished between subjects who reported participating in a "drug-free" substance abuse treatment program of any modality (but excluding self-help groups) and those who reported participating in a methadone maintenance program.³ Throughout our analyses, we found clear differences in retention rates and client characteristics based on this distinction. Analyzing the data separately by type of treatment program preserved these distinctions and, in our opinion, allowed for a truer rendering of participation and retention rates.

Treatment participation rates

In the six months prior to the baseline interview, 17% of respondents reported participating in methadone maintenance, 24% reported participating in a formal drug-free program,

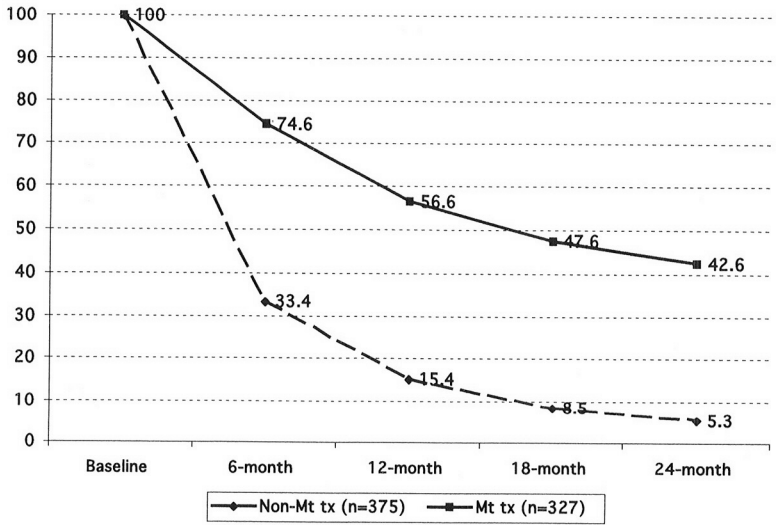
and the remaining 59% reported no treatment participation (see Figure 1). Thus, even though SSI DA&A recipients were required to participate in some form of substance abuse treatment, toward the end of the DA&A program, less than half did so. By the 24-month follow-up, only 15% of the sample reported participation in *any* form of substance abuse treatment in the preceding six months.

FIGURE 1
Treatment participation rates by interview (n=1,444)



The steep decline in treatment participation between baseline and the two-year follow-up can be attributed to two factors. First, as shown in Figure 2, the retention rate for outpatient drug-free programming was very low over the two-year study.⁴ About 67% of those in drug-free treatment at baseline were no longer in treatment by the six-month follow-up. By the two-year interview, this figure had reached 95%. Although the retention rate was much higher for those in methadone maintenance, a substantial proportion of those who began the study in methadone maintenance (about 57%) were not in any form of treatment two years later.⁵ Overall, after two years, participation in formal treatment by former SSI DA&A recipients in treatment just prior to the end of the mandate had declined by about 75%.

FIGURE 2
Retention rates among participants in drug-free substance abuse treatment and methadone maintenance by interview



The second factor behind the low rate of treatment participation over the course of the study was the very low rate of treatment entry. At each interview wave, fewer than 9% of the sample entered formal treatment. Thus the small number of DA&A recipients entering treatment did not offset the large number leaving.

Comparisons of subjects by treatment participation status at baseline

We next conducted bivariate analyses to compare the characteristics of those who reported being in a drug-free program or in methadone maintenance in the six months prior to baseline with the characteristics of those who reported no treatment participation. Given the mandate that DA&A recipients participate in treatment to continue receiving benefits, we wanted to determine if there was anything distinctive about those who were not complying with the mandate near the time the DA&A program was eliminated. The results of these analyses are shown in Table 2.

There were relatively few statistically significant differences between the two groups. Those in drug-free treatment were more likely to have graduated from high school (45% vs. 55%), to report three or more mental health problems (53% vs. 64%), and to feel they needed treatment (28% vs. 57%). However, the two groups were not significantly different in terms of any other characteristics examined, including self-reported use of heroin/cocaine, marijuana, or alcohol.

The distinctions were more numerous between subjects reporting participation in methadone maintenance and those not in formal treatment. Methadone maintenance participants were more likely to: be 40 years of age or more (78% vs. 62%), Caucasian (26% vs. 14%); have graduated from high school (56% vs. 45%); report three or more physical health problems (67% vs. 55%); use cocaine or heroin on a weekly basis (36% vs. 24%); use drugs other than cocaine or heroin on a weekly basis (31% vs. 20%); feel they needed treatment (80% vs. 28%); have been arrested in the preceding six months (41% vs. 25%); and be involved in the criminal justice system (29% vs. 17%).

Thus, among the three groups of subjects assessed at baseline, those in methadone maintenance appeared to have the most severe drug use profiles, including the highest rates of use and a corresponding greater perceived need for treatment. Clearly, these individuals were in treatment because of their degree of drug use and ancillary problems. Those in a drug-free program did not appear to be much different from those not in treatment except possibly for the co-occurrence of mental health problems. This suggests that factors not related to level of drug use (e.g., the extent to which the treatment mandate was enforced locally, individual motivation and circumstances, etc.) influenced whether or not individuals with more moderate problems were in drug-free treatment near the end of the DA&A program.

TABLE 2

Respondent characteristics by substance abuse treatment participation in the six months prior to baseline^a

	No Substance Abuse Treatment (n=735)	Drug-Free Substance Abuse Treatment (n=375)	Methadone Maintenance (n=327)
	%	%	%
Age ***			
Less than 40 years	38	41	22
40 years or older	62	59	78
Race/Ethnicity ***			
Caucasian	14	19	26
African American	81	75	58
Other	5	7	15
Education **			
Less than 12 years	55	45	44
12 years or more or GED	45	55	56
Physical Health Status **			
No health problems	14	9	9
1 or 2 health problems	31	29	24
3 or more health problems	55	62	67
Mental Health Status **			
No mental health problems	27	24	24
1 or 2 mental health problems	21	12	14
3 or more mental health problems	53	64	63
Alcohol Use *			
Less than weekly	47	45	54
At least weekly	53	54	46
Cocaine/Heroin Use ***			
Less than weekly	76	70	63
At least weekly	24	30	36
Cannabis/Other Drug **			
Less than weekly	80	81	69
At least weekly	20	19	31
Self-Perceived Need for Substance Abuse Treatment ***			
No need for treatment	72	43	20
Needs treatment	28	57	80
Arrested in Past Six Months ***			
No	75	69	59
Yes	25	31	41
Currently Involved in Criminal Justice System *			
No	83	79	71
Yes	17	21	29

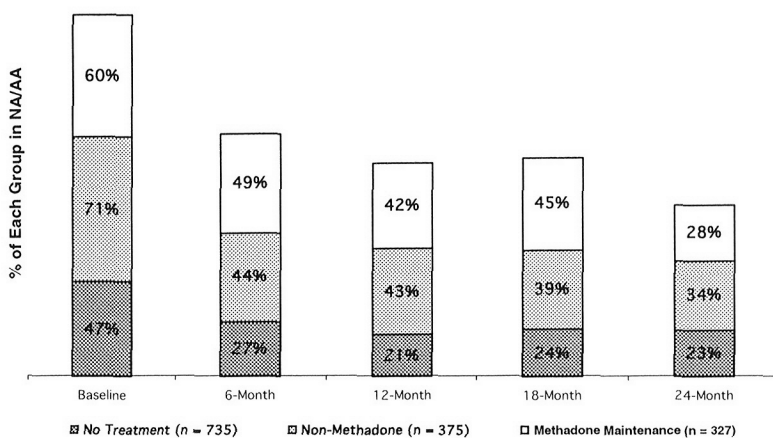
^a Significance levels reflect Chi-Square test results using WesVar.
*= $p < .10$, **= $p < .05$, ***= $p < .001$.

Participation rates in self-help groups

It is possible that the high proportion of individuals not in formal treatment just before the end of the DA&A program can be accounted for by participation in self-help groups. To test this hypothesis, we conducted a separate analysis on self-

help participation rates disaggregated by treatment status at baseline. Figure 3 shows the results of these analyses. Those reporting no treatment participation at baseline had the lowest level of self-help participation among all groups of subjects: only 47% said they had gone to self-help meetings in the previous six months. In contrast, 71% of those in drug-free treatment and 60% of those in methadone maintenance said they had gone to a self-help meeting in the same period. These baseline differences were statistically significant ($X^2_{df=2} = 39.856, p < .000$).

FIGURE 3
Self-help participation rates by baseline treatment status and interview



Just as participation in formal treatment declined after the mandate ended, participation in self-help groups also waned. By the two-year follow-up, self-help attendance had declined to 20%–35% for all three groups (reflecting an overall participation rate of 27% for the entire sample). This suggests that while participation in self-help groups perhaps substituted for treatment participation for *some* individuals at baseline, as treatment participation declined following the end of the mandate, participation in self-help groups also declined. It also suggests that while DA&A recipients often participated

in self-help groups as an adjunct to formal treatment, many stopped going to Alcoholics or Narcotics Anonymous meetings when they left treatment.

**Treatment
need among
those not in
treatment at
baseline**

Not surprisingly, the treatment participation of those not in treatment at baseline remained low throughout the study. Of the respondents who did not participate in treatment in the six months preceding baseline (N = 735), only 16% entered treatment at some point during the follow-up (6% entered methadone maintenance and 12% entered drug-free treatment; a small percentage entered both).

As discussed earlier, not all DA&A beneficiaries were drinking or using drugs or in need of treatment while receiving benefits. Given this, for those not in treatment in the period before baseline, we used self-reported frequency of heroin and/or cocaine use (greater than weekly) or a respondent's stated need for treatment to distinguish those who probably needed treatment from those who probably did not. In this way we identified 20% of the subjects who did not participate in treatment in the six months prior to baseline (11% of the total sample) as likely in need of treatment (see Table 1).

Combining these results with those from the previous analyses leads us to conclude that only about 50% of those receiving SSI DA&A benefits either were in drug treatment or needed to be in drug treatment when the program ended. This is a conservative estimate for several reasons. First, it is based on self-reported drug use; the actual prevalence and frequency of use likely was significantly underreported (see Podus, Chang et al., this issue). Second, while we focused on heroin and cocaine use because it is reasonable to assume that greater than weekly use of these drugs is clinically significant, frequent use of other drugs could also be clinically significant, though such significance is impossible to determine given the SSI Study data.

Seeking to determine the differences between those who needed treatment and those who did not, we ran a series of bivariate tests comparing the two groups on a variety of basic measures in the data set. Table 3 presents those variables that yielded statistically significant results. The findings suggest that those in need of treatment were younger, more likely to use more than one drug (data not shown), and more likely to be involved with the criminal justice system. Conversely, those not in need of treatment were older people whose most

TABLE 3

Baseline differences in respondent characteristics by estimated need for substance abuse treatment

	No Need for Substance Abuse Treatment (n=478)	Needs Substance Abuse Treatment (n=257)
	%	%
Race/Ethnicity ***		
Caucasian	19	8
African American	76	87
Other	5	5
Age ***		
Mean age	45 years	41 years
Physical Health Status **		
0 or 1 health problem	27	35
2 or more health problems	73	65
Alcohol Use ***		
Less than weekly	62	23
At least weekly	38	77
Other Drug Use ***		
Less than weekly	88	67
At least weekly	12	33
Arrested in Past Six Months***		
No	84	56
Yes	12	44

=p<.05, *=p<.001.

active drinking and other drug use may have been behind them. They reported somewhat more health problems than those needing treatment, perhaps because of their age and previous alcohol and other drug use.

**Influence of
DA&A program
termination on
outpatient
treatment
retention**

To determine the influence of the elimination of the DA&A category on treatment retention among DA&A beneficiaries in King County (Seattle), Washington, we conducted a survival analysis using two cohorts of SSI DA&A beneficiaries. The first (N = 89) consisted of all DA&A recipients admitted to outpatient substance abuse treatment between January 1 and June 31, 1995 (i.e., 18 to 24 months prior to the end of the DA&A program). The second cohort (N = 85) consisted of all DA&A recipients admitted to outpatient treatment between July 1 and December 31, 1996 (i.e., less than six months prior to program termination). Preliminary comparisons of these two groups on a variety of demographic variables in the TARGET database revealed no statistically significant differences for age, marital status, race/ethnicity, years of education, gender, arrests in the year prior to admission to outpatient treatment, or utilization of general medical health services in the year prior to admission to outpatient treatment. DA&A beneficiaries in the 1995 cohort were more likely than those in the 1996 cohort to be involved with the criminal justice system (i.e., in jail, in prison, or on probation) at the time of admission to outpatient treatment (36% vs. 22%, $X^2_{df=1} = 3.88$, $p < .05$) and less likely to identify heroin as their primary substance of abuse (9% vs. 19%, $X^2_{df=1} = 4.55$, $p < .05$).

To test the possibility that coincident events other than termination of the DA&A program affected treatment retention rates (i.e., history effects), we conducted survival analyses on two similar populations of outpatient substance abuse treatment participants: SSI beneficiaries entering outpatient treatment who were not receiving benefits under the DA&A category and recipients of income assistance under Washington State's General Assistance Unemployable (GAU) program.

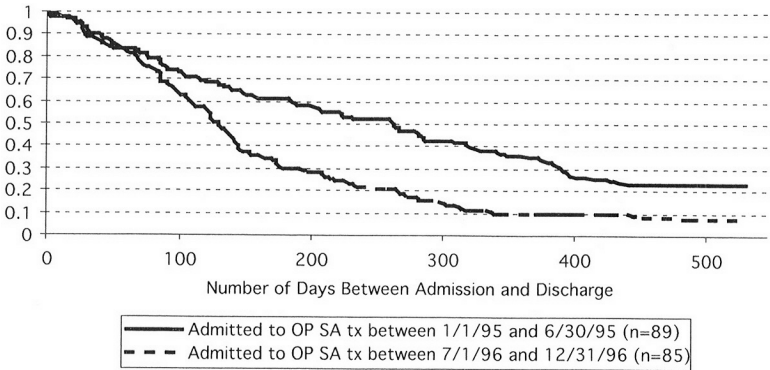
The survival analyses were based on the number of days between admission to outpatient substance abuse treatment and the end of the treatment “episode.” An “episode” consisted of any admission to substance abuse treatment following the first or “index” admission where no more than 30 days elapsed between a discharge and subsequent admission. For most (82%), the episode terminated with discharge from the index admission. For the remaining 17%, the index outpatient treatment was followed by one or more admissions to intensive inpatient (1%), residential (7%), and/or outpatient (15%) substance abuse treatment. Observations were censored at 18 months (547 days).

For all of the survival analyses, we controlled for socio-demographics, general medical and mental health service utilization in the year prior to admission, nature of substance abuse (i.e., primary drug of choice, frequency of use, age of first use), arrests in the year prior to admission, and involvement with the criminal justice system at the time of admission. However, the final models only include covariates significant at the $p < .05$ level. The plots shown below represent the survival function for each group adjusted for covariates included in the final model.

Figure 4 indicates that on average across the 18-month follow-up period, the end of the DA&A program significantly reduced treatment retention among DA&A beneficiaries. Those entering outpatient substance abuse treatment in the six months prior to program termination were twice as likely to end treatment during the time periods assessed compared with those entering 18 to 24 months prior to program termination ($X^2_{df=1} = 16.91, p < .001$; Hazard Ratio = 2.08). Other than the main grouping variable of time entering treatment, the only significant predictors in the model were ethnicity and a history of injection drug use. African-American beneficiaries were more likely to end treatment sooner than Caucasians ($X^2_{df=1} = 6.29, p < .05$; Hazard Ratio=1.58, $p < .05$), and those who had ever injected drugs were more likely to

FIGURE 4

Survival curves for retention in outpatient substance abuse treatment for Washington State SSI DA&A beneficiaries pre- and post-DA&A program termination



end treatment sooner than non-injectors ($X^2_{df=1} = 7.04$, $p < .05$; Hazard Ratio=1.59, $p < .01$).

In contrast to the clear differences between those directly affected by the termination of the DA&A program, survival analyses for non-DA&A SSI beneficiaries and for GAU recipients (Figures 5 and 6, respectively) were not significant and showed virtually no changes in retention rates before and after program termination.

The influence of program termination on retention in methadone maintenance

We explored the possibility of determining the influence of program termination on retention in methadone maintenance using the same survival analysis methodology employed above. However, only 10 relevant individuals were admitted to methadone maintenance in Washington State in the six months prior to elimination of the DA&A program. Because of the insufficient sample size, we resorted to an alternative strategy.

Specifically, we based our population for the methadone maintenance survival analysis on all SSI DA&A beneficiaries admitted to methadone maintenance between January 1, 1995, and December 31, 1996 (N=110). In this analysis, how-

FIGURE 5
Outpatient drug treatment survival curves for Washington State non-DA&A SSI beneficiaries pre- and post DA&A program termination

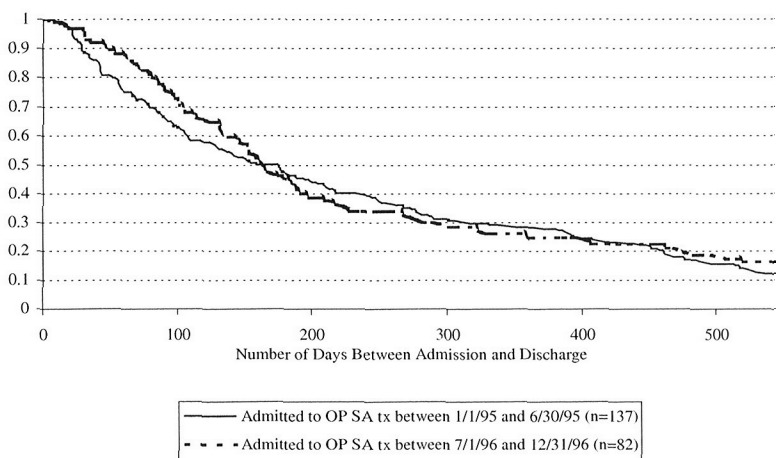
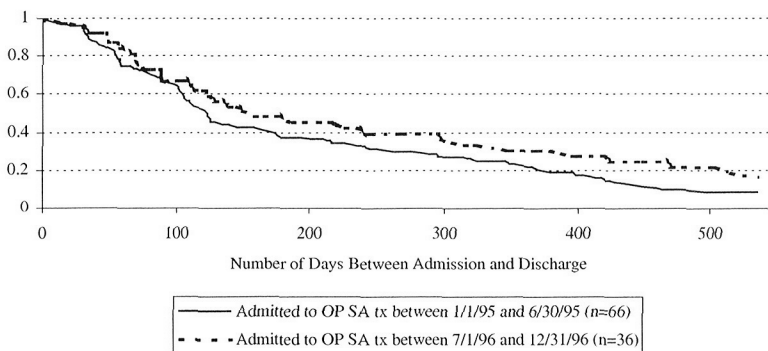


FIGURE 6
Outpatient drug treatment survival curves for Washington State GAU beneficiaries pre- and post-DA&A program termination



ever, we used a time-dependent covariate to identify the influence of the program's termination. The covariate reflected whether or not—for a given individual—each follow-up point was before or after January 1, 1997.⁶ Other

covariates in the model controlled for socio-demographics, general medical and mental health service utilization in the year prior to admission, nature of substance abuse (i.e., primary drug of choice, frequency of use, age of first use), arrests in the year prior to admission, and involvement with the criminal justice system at the time of admission. The dependent variable was the number of days between admission to methadone maintenance and the end of the methadone maintenance episode. An episode, as before, consisted of all admissions to methadone maintenance following the first or index admission where no more than 30 days had elapsed between discharge and a subsequent methadone maintenance admission. If multiple episodes of methadone maintenance began during the period, we selected the last one.⁷ Again, observations were censored at 18 months (547 days).

Results of the Cox regression analysis indicate that DA&A program termination did not significantly affect time in treatment ($X^2_{df=1} = .183, p = .668$). Ethnicity was the only statistically significant demographic factor: Compared with Caucasians, African Americans were nearly twice as likely to terminate treatment early ($X^2_{df=1} = 8.41, p = .668$; Hazard Ratio = 1.9).

Discussion

The end of the mandate to participate in treatment resulted in a large number of substance-abusing former DA&A recipients discontinuing treatment and likely a large number never entering treatment at all. By the time the DA&A program ended in January 1997, the majority of beneficiaries were not participating in any formal treatment. Many also stopped participating in self-help groups.

The treatment exodus may have begun prior to the actual termination of the program and may have been due to the fact that in June 1996, DA&A recipients were notified of the pro-

gram's impending termination. Indeed, some knew as early as March 1996, when the legislation was enacted. By the time the new law took effect, many may already have decided to discontinue treatment or to not bother entering. We know that during this period the SSA stopped enforcing the treatment mandate—to the extent it ever did—and turned its attention to the large task of dealing with applications for redetermination (i.e., requalification; see Hunt and Baumohl, this issue). In effect, the elimination of the DA&A category gave recipients a nine-month pass on the treatment mandate, and many probably took advantage of it.

In spite of the relatively low participation rates in treatment and the poor monitoring of compliance with the mandate, we think it would be mistaken to conclude that the mandate was ineffective. As our analyses of post-mandate treatment retention rates show, many DA&A recipients were probably in drug treatment solely because of the mandate. By the end of our two-year study, only about one-fourth of those participating in substance abuse treatment of any kind at the beginning remained in treatment (representing less than 3% of the total sample). Over that same time, few former DA&A recipients entered treatment on their own initiative despite very good evidence that many of them continued to use drugs like heroin and cocaine on a frequent basis (see Podus, Chang et al., this issue). Comparisons with historical data from DA&A recipients and with historical and concurrent data from non-DA&A recipients of SSI and a similar population in publicly funded treatment suggest that these steep declines in treatment participation resulted directly from the ending of the mandate. Thus, whatever the slippage in compliance monitoring, a large enough group of DA&A recipients took the mandate seriously enough to enter and stay in treatment at rates much higher than after the mandate ended. To this extent, and even under less than optimal conditions, the mandate brought many substance-abusing individuals into treatment and kept them there longer than they would have stayed in its absence. A large body of research on mandated treatment participation

suggests that the treatment likely was beneficial (Hiller et al., 1998). Our data do not permit such a claim, however.

We don't believe there is much to make of the slightly higher retention rates for methadone maintenance as compared with outpatient treatment. Both forms of treatment saw large declines in the post-mandate period, though the decline among those in methadone was somewhat less rapid and less steep. Subjects' conflation of methadone maintenance and methadone detoxification (see below) may render even this difference illusory. Similarly, our comparisons among those not in treatment with those in some kind of formal treatment produced few surprising results. Those in methadone treatment were the most dissimilar from other subjects, especially in terms of the degree of their substance use. In spite of their relatively heavy drug use, however, many DA&A recipients in methadone maintenance also discontinued treatment once the mandate was withdrawn.

This study has a number of methodological limitations. As discussed in more detail by Swartz, Tonkin and Baumohl (this issue) and by Choudhry and Helba (this issue), the aggregated sample of the SSI Study is not representative of the national population of former DA&A recipients. Nationally, the pattern of treatment participation and retention could have varied significantly from the patterns we found, though we did examine our data for site interactions and found few.

Additionally, our data are based on self-reports. We have already discussed how respondents' representation of their treatment participation was only moderately accurate based on comparisons with official treatment records (Swartz, Tonkin and Baumohl, this issue). Further, we know from another study conducted on our sample (Podus, Chang et al., this issue) that its members, like many groups of drug users, underreported their current use, especially their use of cocaine and heroin. Thus our estimate of the number of subjects in need of treatment at baseline is likely very low. We

also found, through analysis of the patterns of responses to some of the questions in our survey instrument, that subjects were sometimes confused about the difference between methadone maintenance and methadone detoxification (the latter is not considered treatment). We later determined that the direction of this error was to inflate the numbers for participation in methadone maintenance. Unfortunately, since this error was not detected until midway through the study, we could not correct earlier data. The result is that early participation rates for methadone maintenance and the subsequent attrition rates are likely exaggerated. However, we do not think this bias made a substantive difference in the main findings of the study.

Another study limitation suggests a subject worthy of further research. Especially in group treatment, many programs incorporate 12-step practices and/or encourage participation in such programs as part of treatment or as transition to after-care. As a result, formal treatment programs have been suffused with the processes and terminology of self-help. In the SSI Study, semistructured interviews with a subsample of respondents in four sites (see Swartz, Tonkin and Baumohl, this issue) revealed that some confused outpatient groups using 12-step processes and lingo with self-help participation. Thus, when assessment of formal outpatient participation is of concern, it seems important to carefully probe what respondents mean when they indicate they are in outpatient treatment and what they mean when they say they are attending self-help meetings. Problems of this sort are likely to vary considerably by site. In our study, in two of the four sites where semistructured interviews were conducted (Stockton and San Francisco), there was a pronounced tendency for respondents to mistake outpatient groups for self-help, thus deflating participation rates for the former and inflating them for the latter. This was a modest problem in a third site (Chicago) and completely undetected in a fourth (Portland). We don't believe this problem compromises our cross-site

findings significantly, but we think it is an important and heretofore unacknowledged problem for treatment research.

Notes

1. See Hunt and Baumohl (this issue), for a more complete discussion of the history of the DA&A impairment category and related operational and policy issues.
2. Washington State's General Assistance Unemployable (GAU) program provides a monthly stipend and medical assistance to individuals with impairments that render them unemployable. The standard of disability is less stringent than that used by the SSA. Individuals determined to be disabled by continuing substance abuse do not qualify for GAU. However, GAU recipients are sometimes substance abusers even if this is not the basis of their disability, and they qualify for publicly funded treatment.
3. We classified subjects as being in drug-free treatment if they did not report being in a methadone maintenance program in the previous six months but did report being in one of the following treatment modalities: hospital-based treatment, jail- or prison-based treatment, halfway house, residential program, outpatient, or other. The majority of subjects in this category reported being solely in outpatient treatment (62%) in the previous six months. In total, 80% participated in outpatient treatment, 23% participated in residential treatment or lived in a therapeutic community, 17% participated in intensive inpatient treatment, 4% received treatment at a halfway house, and 1% received treatment in jail or prison. (The percentages sum to more than 100% because a subject could report being in more than one type of treatment in a six-month period.) The majority of subjects in methadone maintenance treatment (67%) reported being solely in that type of treatment in the previous six months, though 28% also reported attending an outpatient treatment program during the same time, 9% participated in residential treatment or lived in a therapeutic community, 6% received intensive inpatient treatment, 1% received treatment in jail or prison, and 1% received treatment at a halfway house.
4. We defined treatment participation as the proportion of the sample in treatment at any interview wave. This number was based on those retained in treatment from prior waves plus those admitted to treatment in the current wave. We calculated participation rates based on the total sample ($N = 1,444$). We defined treatment retention as the proportion of respondents in treatment at baseline who remained in treatment at each subsequent wave. We calculated retention proportions based on the number of subjects in treatment at baseline.

5. After the six-month follow-up, interviewers suggested that some respondents were confusing methadone maintenance with methadone detoxification. Thus, at the 12-month follow-up the study team added a question to determine the extent to which such confusion affected our estimates of methadone maintenance participation rates. Specifically, immediately after respondents reported participation in methadone treatment, they were asked: "Was this for detoxification only?" Analysis of the results suggests that our estimates of methadone maintenance participation were inflated by as much as 30% at the 12-month follow-up, 11% at the 18-month follow-up, and 12% at the 24-month follow-up.
6. Because individuals in this analysis entered methadone maintenance over a two-year period, the time between admission and January 1, 1997, varied among individuals. PROC PHREG calculates the value of time-dependent variables prior to estimation of the hazard function for each time point.
7. Analyses run by selecting the first episode produced identical results.

References

- Choudhry, G. Hussain and Cynthia Helba (2003). "Rationale and Procedures for Weighting the SSI Study Data," *Contemporary Drug Problems*, 30, 137-146.
- General Accounting Office [GAO] (1994). "Social Security: Major Changes Needed for Disability Benefits for Addicts." Letter report, May 13, 1994, GAO/HEHS, 94-128.
- Hiller, M. L., K. Knight, K. M. Broome, & D. D. Simpson (1998). Legal pressure and treatment retention in a national sample of long-term residential programs. *Criminal Justice and Behavior*, 25, 463-481.
- Hunt, Sharon R. and Jim Baumohl (2003). "Drink, Drugs and Disability: An Introduction to the Controversy." *Contemporary Drug Problems*, 30, 9-76.
- Podus, Deborah, Eunice Chang, Mary Lynn Brecht, James Swartz, and M. Douglas Anglin (2003). "Drug Use Prevalence among Former SSI DA&A Recipients," *Contemporary Drug Problems*, 30, 275-290.
- SAS 8.02 [computer software]. (2001). Cary, NC: SAS Institute, Inc.
- Social Security Administration [SSA] Office of the Inspector General (1997). "Review of Referral and Monitoring Agency Contracts for Drug Addicts and Alcoholics." A-04-95-06017.

Swartz, James, Peggy Tonkin, and Jim Baumohl (2003). "The Methodology of the Multisite Study of the Termination of Supplemental Security Income Benefits for Drug Addicts and Alcoholics," *Contemporary Drug Problems*, 30, 77-121.

Westat (2001). WesVar (Version 4.0) [Computer software]. Rockville, MD: Westat.