



**THE IOWA
CONSORTIUM**
FOR SUBSTANCE ABUSE RESEARCH AND EVALUATION

— **JAIL-BASED SUBSTANCE ABUSE** —
TREATMENT PROGRAM

**JAIL-BASED SUBSTANCE ABUSE TREATMENT PROGRAM
AND
OUTCOMES MONITORING SYSTEM
CLIENT COMPARISON STUDY**

PREPARED BY:

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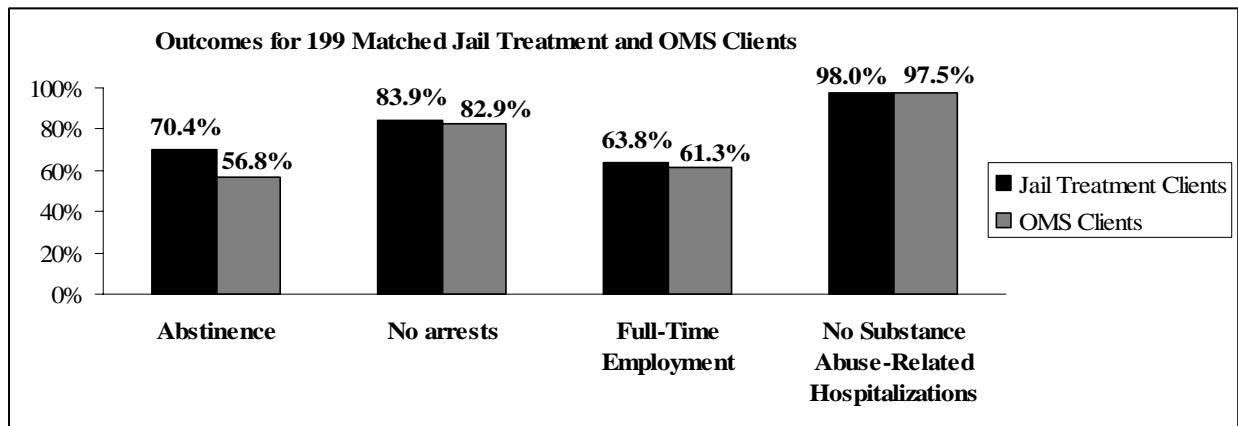
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Overview

This study compares client outcomes of a jail-based treatment program with similar clients in state-supported treatment programs in Iowa. Follow-up data from the Jail-Based Substance Abuse Treatment Program and the Outcomes Monitoring System (OMS) were analyzed to determine if there are any differences between the two groups regarding client outcomes. Data from the two groups were matched on 7 variables to create a homogenous data set for outcome comparison. The purpose of the project was to determine if there were any differences between the two groups related to outcomes.

The Jail Treatment Program provides substance abuse treatment to clients during incarceration and after release from jail in Polk, Woodbury, and Scott Counties. Three treatment agencies are involved in this program: United Community Services, Inc., Center for Alcohol and Drug Services, Inc., and Jackson Recovery Centers. Outcome data are collected from clients approximately 6 and 12 months after admission to the treatment program. Clients included in the OMS Project have received publicly-funded substance abuse treatment at one of the 31 Iowa Department of Public Health (IDPH) supported treatment agencies. OMS outcome data are collected from clients approximately 6 months following the client's discharge from treatment.

The sampling procedure produced a match of 199 clients from each of the two programs. Four outcome variables were examined for the matched set of clients — abstinence, no arrests, full-time employment, and no substance abuse-related hospitalizations.



- Jail Treatment clients abstained at a rate of 70.4% at follow-up which is a statistically significant higher abstinence rate than OMS clients (McNemar's Test, $p < 0.01$). OMS clients had a 56.8% rate of abstinence at follow-up.
- Clients participating in the Jail Treatment Program report a slightly higher rate of no arrests at follow-up (83.9%) when compared with OMS clients (82.9%).
- Clients participating in the Jail Treatment Program had a higher rate of full-time employment (63.8%) at follow-up than OMS clients (61.3%).
- Jail Treatment clients had a slightly lower rate of substance abuse-related hospitalizations (2%) at the follow-up interview compared to OMS clients (2.5%).

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The Iowa Jail-Based Substance Abuse Treatment Program: Jail-Based Substance Abuse Treatment Program and Outcomes Monitoring System Matched Client Comparison Study

An enhancement of the Jail-Based Substance Abuse Treatment Program Follow-up Evaluation

1. Introduction

This study compares client outcomes of a jail-based treatment program with similar clients in state-supported treatment programs in Iowa. Follow-up data from the Jail-Based Substance Abuse Treatment Program and the Outcomes Monitoring System (OMS) were analyzed to determine if there are any differences between the two groups regarding client outcomes. Data from the two groups were matched on 7 variables to create a homogenous data set for outcome comparison. The purpose of the project was to determine if there were any differences between the two groups related to abstinence, arrests, employment and substance abuse-related hospitalizations.

The Jail Treatment Program provides substance abuse treatment to clients during incarceration and after release from jail in Polk, Woodbury, and Scott Counties. Outcome data are collected from clients approximately 6 and 12 months after admission to the treatment program. Clients included in the OMS Project have received publicly-funded substance abuse treatment at one of the 31 Iowa Department of Public Health (IDPH) supported treatment agencies. OMS outcome data are collected from clients approximately 6 months following the client's discharge from treatment.

2. Method

Study Questions

Two questions are addressed as a result of this comparison: 1) What are the outcomes of the matched data set of clients?; and 2) Do outcomes vary significantly between the two groups?

Programs

The Jail-Based Substance Abuse Treatment program was established to deliver and evaluate substance abuse treatment services to clients during incarceration and after release from jail. Three treatment agencies in Iowa are involved in this program: United Community Services, Inc. (UCS), a Des Moines-based agency delivering treatment to clients at the Polk County Jail; Center for Alcohol and Drug Services, Inc. (CADS), an agency located in Davenport, Iowa delivering treatment to clients at the Scott County Jail; and Jackson Recovery Centers based in Sioux City, Iowa delivering treatment to clients in Woodbury County Jail. To determine effectiveness of treatment services, clients are tracked by Consortium staff for two follow-up interviews that occur approximately 6 and 12 months after admission to the treatment program.

The OMS Project was established to systematically gather follow-up data on substance abuse treatment outcomes in Iowa. OMS data are obtained through a random sample of publicly-funded substance abuse treatment clients from 31 treatment agencies in Iowa. This population

includes drug or alcohol clients who receive IDPH-funded treatment in one of the following environments: medically managed inpatient, primary residential treatment, extended residential treatment, halfway house, continuing care, extended outpatient, intensive outpatient, or medically monitored residential. The monthly random sample size is approximately 8% of the client population. The sample of clients is tracked by Consortium staff for follow-up interviews that occur approximately six months after discharge from treatment.

Data

Iowa's Substance Abuse Reporting System (SARS) is the state's standardized client data collection system. SARS has been used by IDPH since 1982. SARS admission data are collected by treatment agency staff on all clients in both programs. The admission data serve as a baseline to compare with follow-up data and determine client outcomes related to abstinence, arrests, employment, hospitalizations, and several other variables. SARS follow-up data are collected by Consortium staff from clients in the Jail Treatment Program and the randomly selected OMS clients.

Follow-up data for the matched data set were examined to identify differences between matched clients from the two programs. Four outcome variables were examined — abstinence, no arrests, full-time employment, and substance abuse-related hospitalizations. Abstinence is defined as a response of “none” when asked at follow-up to name a primary substance of use, and it refers to abstinence from all substances. The outcome “no arrests” is defined as not having been arrested during the previous six months. Working full-time is defined as working at least 35 hours per week. Hospitalizations due to a substance abuse-related problem indicate the number of times a client has been hospitalized in the previous six months due to any sort of substance abuse-related problem.

Matching Procedure

A set of matching criteria was identified and used to match clients in the Jail Treatment and OMS programs. Clients were matched on six admission variables and one derived variable: ethnicity, primary race, gender, primary substance, number of arrests, age, and exposure time. The match procedure used exact matching on gender, ethnicity, race, and primary substance used at admission. Age was matched within two years. Arrests were matched within four categories: 0 (anyone with no arrest, but had a criminal justice referral at admission to treatment); 1; 2; and more than 2 arrests within the past 12 months. Exposure time is defined as the time a client could theoretically gain access to drugs or alcohol, seek employment, and/or be arrested. Exposure time for Jail Treatment clients is the period of time between the date of jail release and the follow-up interview. Exposure time for OMS clients is the time frame between date of admission and the follow-up interview date. Exposure time was matched within a 30 day period.

Completion of a follow-up interview was required for inclusion in the matched sample. The list of Jail Treatment clients was narrowed down by choosing which of the two possible follow-up interviews was most relevant: relevant interviews were chosen that more closely matched the mean exposure time of the OMS data. The Jail Treatment data yielded 691 clients with completed follow-up interviews and the OMS data yielded 1,421. The resulting database of all possible matches between Jail Treatment and OMS was then filtered by an algorithm that eliminated any redundant use of a single client within the matched set (since Jail Treatment

clients complete 2 follow-up interviews) to create the final data — a data set of 199 Jail Treatment clients and 199 OMS clients.

Sample Description

The sampling and matching procedure produced 199 pairs of clients from each of the two programs. Clients were matched exactly on gender, race, ethnicity, and primary substance used at admission. In the final data set, 55 (27.7%) of the clients from each group were female and 144 (72.3%) from each group were male. From each group: 191 (96%) were Caucasian, 7 (3.5%) were African American, and 1 (0.5%) was American Indian. Two clients (1%) from each group reported Hispanic or Latino ethnicity. Table 1 shows gender, race, and ethnicity by program.

Table 1. Gender, Race, and Ethnicity at Admission

	Gender		Race			Ethnicity	
	Male % (N=199)	Female % (N=199)	Caucasian % (N=199)	African American % (N=199)	American Indian % (N=199)	Hispanic or Latino % (N=199)	Non Hispanic or Latino % (N=199)
Jail Treatment Clients	72.3 (144)	27.7 (55)	96.0 (191)	3.5 (7)	0.5 (1)	1.0 (2)	99.0 (197)
OMS Clients	72.3 (144)	27.7 (55)	96.0 (191)	3.5 (7)	0.5 (1)	1.0 (2)	99.0 (197)

Table 2. Primary Substance Reported at Admission

Methamphetamine was the most commonly used primary substance at admission, reported by 43.3% of the clients in the data set.

Primary Substance	Jail Treatment Clients % (N=199)	OMS Clients % (N=199)
Methamphetamine	43.3 (86)	43.3 (86)
Marijuana	27.1 (54)	27.1 (54)
Alcohol	26.1 (52)	26.1 (52)
Cocaine	3.0 (6)	3.0 (6)
Other Amphetamine	0.5 (1)	0.5 (1)

Table 3. Age at Admission

Clients were matched within 2 years for the age variable. Clients ranged in age from 18 to 53. The median age in the final data set for Jail Treatment clients was 31 years and the median age for OMS clients was 30 years.

	Jail Treatment Clients N=199			OMS Clients N=199		
	Min	Max	Median	Min	Max	Median
Years of Age	18	53	31	18	53	30

Table 4. Arrests at Admission

All clients, with the exception of 2 (1 Jail Treatment client and 1 OMS client), reported one or more arrests in the previous 12 months. The Jail Treatment client was incarcerated and involved in the Jail Treatment Program due to a drug court probation violation, the OMS client who reported no arrests in the previous 12 months was a criminal justice referral at admission. One hundred nineteen clients (59.8%) from each project reported one arrest within the past 12 months at admission; 55 (27.6%) from each project reported 2 arrests at admission; and 24 (12.1%) from each project reported 3 or more arrests at admission.

Number of Arrests	Jail Treatment Clients % (N=199)	OMS Clients % (N=199)
None	0.5 (1)	0.5 (1)
1 time	59.8 (119)	59.8 (119)
2 times	27.6 (55)	27.6 (55)
3 times or more	12.1 (24)	12.1 (24)

Table 5. Exposure Time

Exposure time for Jail Treatment clients ranged from a minimum of 146 days to a maximum of 401 days with an average of 262 days from jail release to the date of the follow-up interview. Exposure time for OMS clients ranged from 148 to 392 days with an average of 258 days from admission to follow-up interview.

Exposure Time	Jail Treatment Clients N=199			OMS Clients N=199		
	Min	Max	Mean	Min	Max	Mean
Days	146	401	262	148	392	258

3. Results and Discussion

To determine if there were any differences between program outcomes, the following outcomes were compared: abstinence, arrests, employment, and hospitalizations due to a substance abuse-related problem. Programmatic outcome differences include the following highlights.

- Jail Treatment clients abstained at a rate of 70.4% at follow-up which is a statistically significant higher abstinence rate than OMS clients (McNemar's Test, $p < 0.01$). OMS clients had a 56.8% rate of abstinence at follow-up.

- Clients participating in the Jail Treatment Program report a slightly higher rate of no arrests at follow-up (83.9%) when compared with OMS clients (82.9%).
- Clients participating in the Jail Treatment Program had a higher rate of full-time employment (63.8%) at follow-up than OMS clients (61.3%).
- Jail Treatment clients had a slightly lower rate of substance abuse-related hospitalizations (2%) at the follow-up interview compared to OMS clients (2.5%).

The following 4 figures provide comparisons of the outcome data collected at follow-up for the 199 matched clients in each of the two programs.

Figure 1. Abstinence at Follow-up

Jail Treatment clients abstained at a rate of 70.4% at follow-up which is a statistically significant higher abstinence rate than OMS clients (McNemar’s Test, $p < 0.01$). OMS clients had a 56.8% rate of abstinence at follow-up.

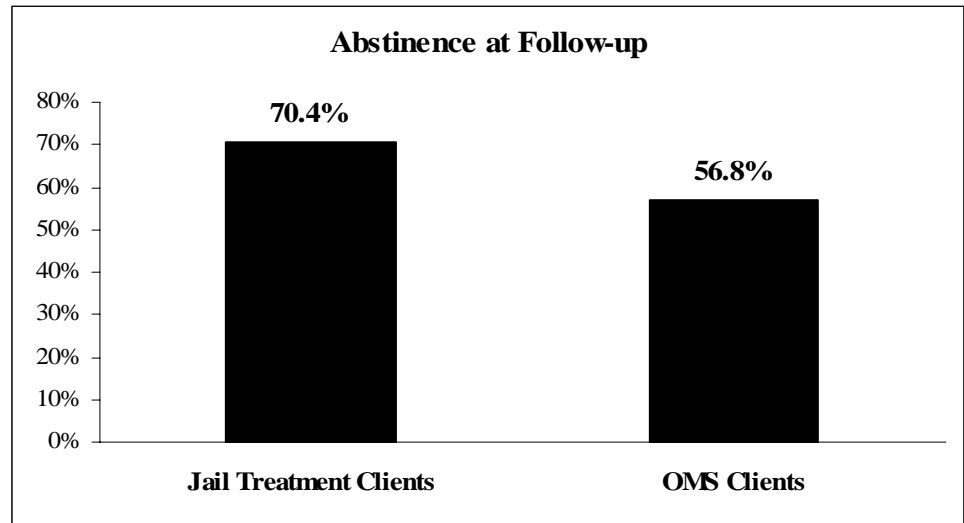


Figure 2. No Arrests at Follow-up

One hundred sixty-seven (83.9%) Jail Treatment clients reported no arrest in the previous six months compared to 165 (82.9%) OMS clients who reported being arrest-free at follow-up.

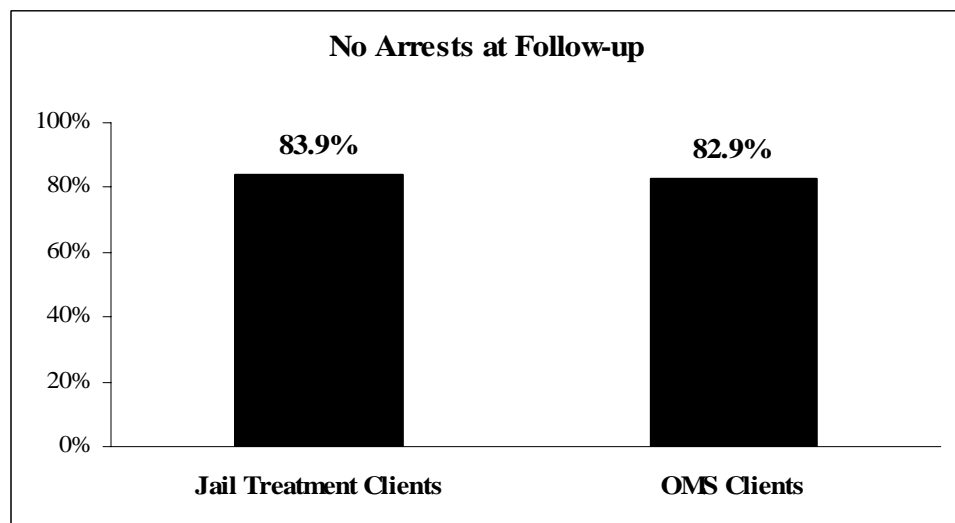
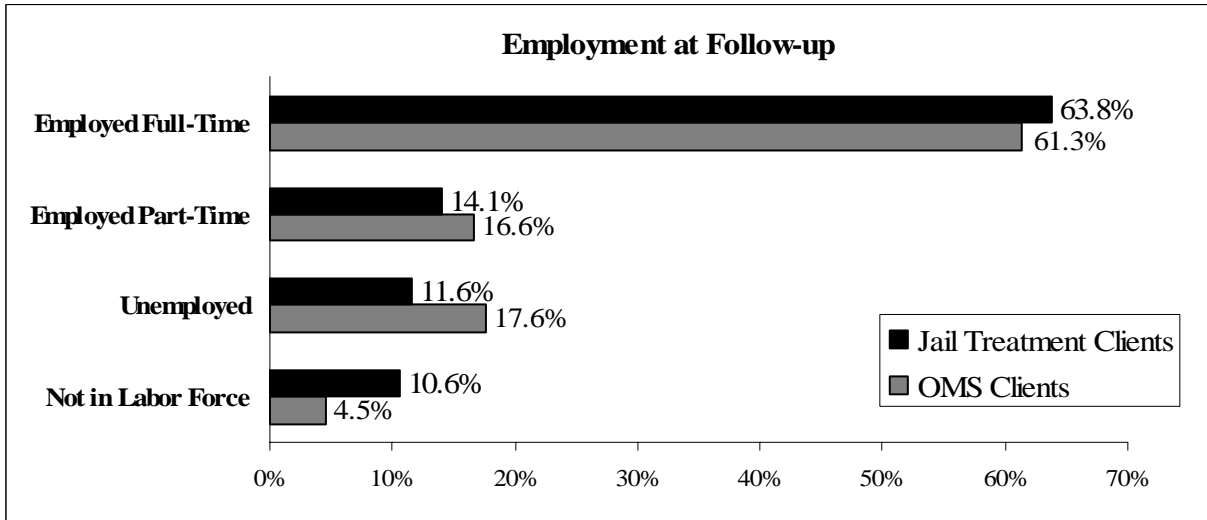


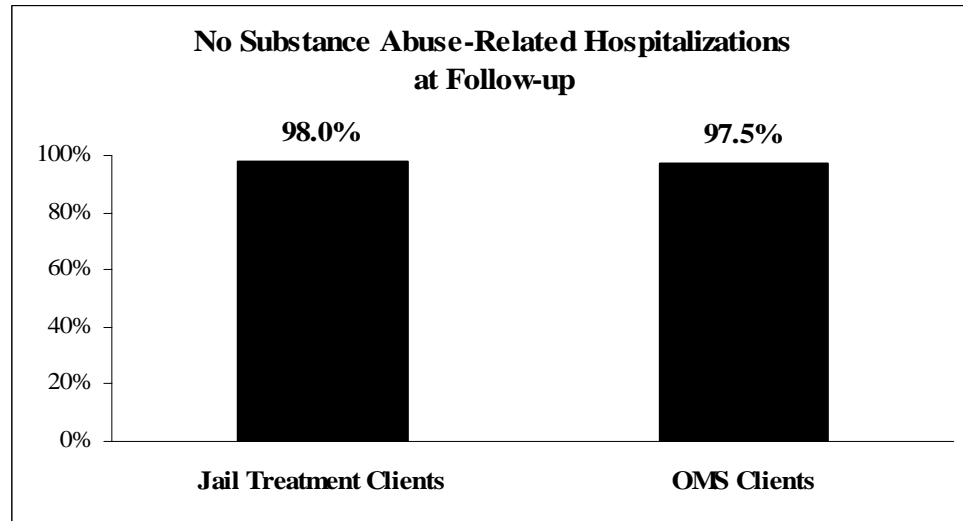
Figure 3. Employment at Follow-up



One hundred twenty-seven (63.8%) of the Jail Treatment clients were working full-time and 28 (14.1%) were employed part-time. Of the OMS clients in the labor force: 122 (61.3%) were employed full-time and 33 (16.6%) were working part-time.

Figure 4. No Substance Abuse-Related Hospitalizations at Follow-up

Four (2%) Jail Treatment clients reported a substance abuse-related hospitalization in the 6 months prior to completing the interview. Five (2.5%) OMS clients had been hospitalized for a substance-abuse related problem in the previous 6 months.



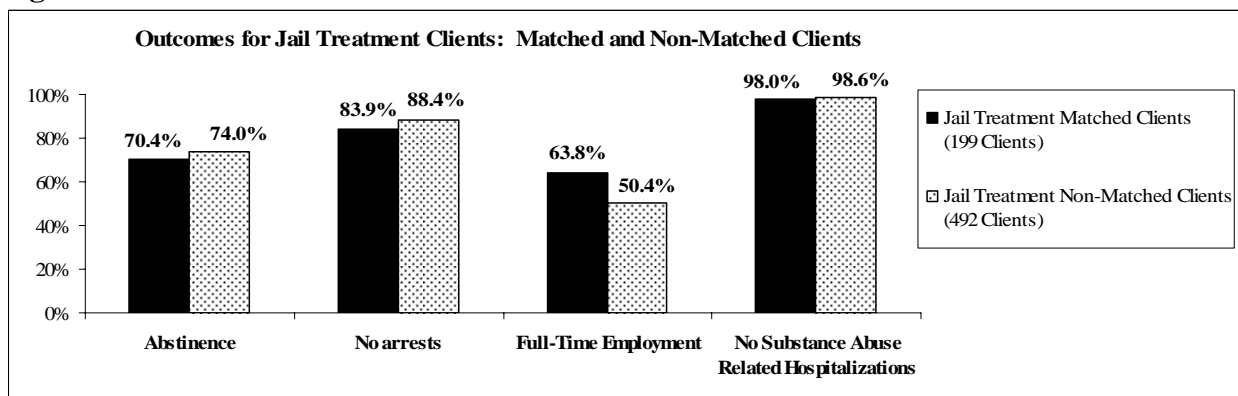
Data Validity

The reasons for discharge provided by treatment agency staff were examined to ensure that client outcomes for one program in the matched data set were not more favorable due to successful completion of the treatment program. Discharge reasons were examined for the matched data set of 199 Jail Treatment and 199 OMS clients. Coincidentally, 128 (64.3%) of the 199 Jail Treatment clients were successful discharges and 133 (66.8%) of the 199 clients OMS clients were discharged for treatment completion or treatment plan substantially completed. This

similarity in the number of successful discharges continues to validate that the matching process produced a homogenous sample.

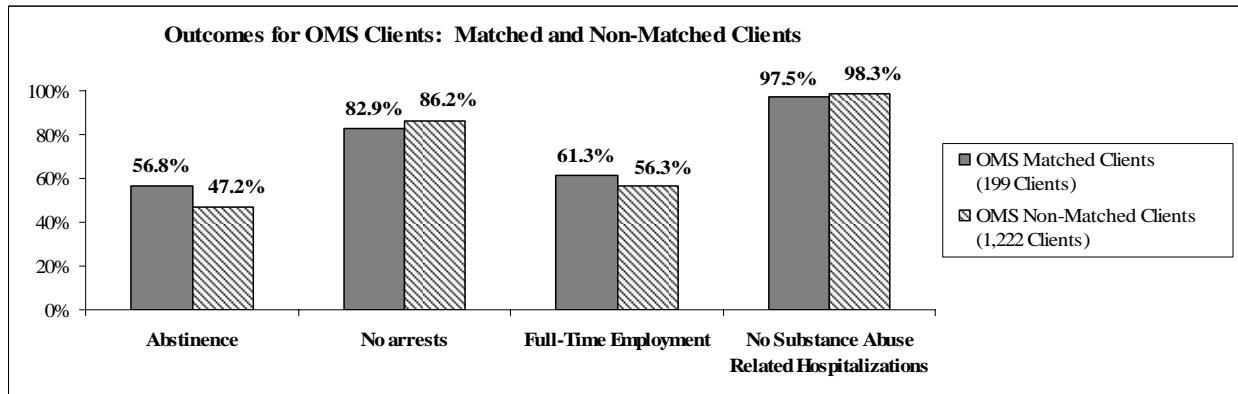
Additional analysis was performed on data of eligible clients not included in the matched data set to ensure the 199 matched clients from each program were generally representative of clients in the Jail Treatment and OMS programs. The matching procedure began with interview data for 691 Jail Treatment clients. Based on the matching criteria established and enforced, matches were found for 199 of the clients: 492 clients did not have a match in the OMS program. Outcome data were analyzed for the 492 non-matched clients. Figure 5 compares the outcome variables for the 199 matched clients with the 492 non-matched clients. All outcomes are similar except the clients who indicate full-time employment at their follow-up interview: Jail Treatment clients included in the final data set of 199 had a higher full-time employment rate than the non-matched clients. Further analysis revealed Jail Treatment clients in the matched data set had a higher average exposure time (262 days) compared to Jail Treatment clients not in the matched data set (181 days). Exposure time is the time a client has the opportunity to seek employment (the time from jail release to completion of the follow-up interview). Thus, this is likely the reason the matched data set of clients have a higher rate of full-time employment — they had more time than non-matched clients to find employment prior to completion of their follow-up interview.

Figure 5. Outcomes for Jail Treatment Clients: Matched and Non-Matched Clients



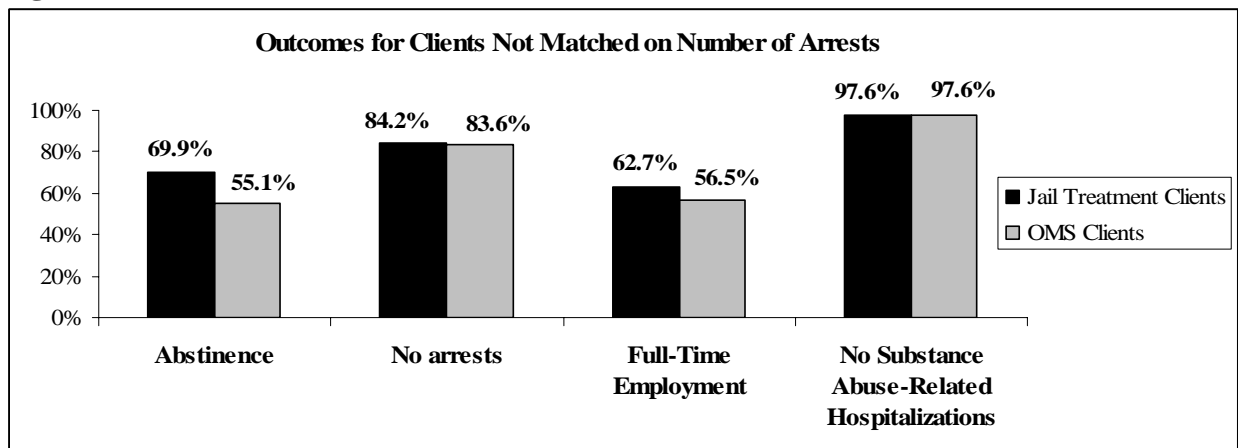
The same procedure was followed for OMS clients not included in the matched data set to compare outcomes to ensure the matched clients were representative of all OMS clients. The initial sample for OMS potential candidates consisted of 1,421 clients. Data were analyzed for the 1,222 clients who were not matched with a Jail Treatment client. Figure 6 compares the outcome variables for the 199 matched clients with the 1,222 non-matched clients. OMS clients included in the matched data set had more favorable outcomes than clients not included in the matched data set: matched clients had a higher abstinence rate (by 9.6 percentage points) as well as a higher full-time employment rate (by 5 percentage points). The OMS clients in the matched data set had a slightly lower arrest rate (by 3.3 percentage points). Exposure time was examined and found not to have been a factor (average exposure time for matched OMS clients was 258 days; average exposure time for non-matched OMS clients was 260 days).

Figure 6. Outcomes for OMS Clients: Matched and Non-Matched Clients



The matching procedure also was conducted on Jail Treatment and OMS clients excluding the arrest variable to determine if similar results would be obtained. All clients included in this data set did have a criminal history (all Jail Treatment clients were incarcerated at the time of admission to the treatment program and OMS clients were either criminal justice referrals or reported an arrest in the previous 12 months at admission). Therefore, clients were matched on five admission variables and one derived variable: ethnicity, primary race, gender, primary substance, age, and exposure time. This resulted in an increase of 93 clients, yielding a match of 292 clients in the final data set. Although there was an increase in the full-time employment disparity (62.7% of Jail Treatment clients were employed full time versus 56.5% of OMS clients), similar results were obtained when comparing the two programs regarding outcomes as displayed in Figure 7. In this alternative matched data set, Jail Treatment clients abstained at a statistically significant higher abstinence rate than OMS clients (McNemar’s Test, $p < 0.01$) and Jail Treatment clients also had slightly favorable outcomes when compared with OMS clients.

Figure 7. Outcomes for Clients Not Matched on Number of Arrests



In conclusion, as Figure 8 on the following page indicates, when comparing the 199 matched clients in the Jail-Based Substance Abuse Treatment Program with 199 clients in the OMS Project, Jail Treatment clients had a statistically significant higher rate of abstinence at follow-up (McNemar’s Test, $p < 0.01$) than clients in the OMS Project. Jail Treatment clients also had

slightly better outcomes for arrests, full-time employment, and substance abuse-related hospitalizations than OMS clients.

Figure 8. Outcomes for 199 Matched Jail Treatment and OMS Clients

