
Effectiveness of a Jail-Based Treatment Program for Individuals with Co-Occurring Disorders

Aileen B. Rothbard, Sc.D.^{*†‡§||},
Holly Wald, Ph.D.[§],
Cynthia Zubritsky, Ph.D.[†],
Nancy Jaquette, L.S.W.[¶]
and Sumedha Chhatre, Ph.D.[†]

Objective: This study examines the effectiveness of a county jail program for individuals with co-occurring disorders (COD) in reducing rates of recidivism and increasing rates of engagement in community-based treatment following discharge. **Methods:** Over a period of 30 months, between 2002 and 2004, 261 individuals who screened positive for COD voluntarily entered an in-jail treatment program. The program provided integrated treatment for both mental health and substance abuse by therapists who had attended a state sponsored COD core training curriculum. The same program staff provided outpatient services once individuals were discharged. An observational study design was used to examine jail recidivism and community care as a function of intensity of treatment while in jail. All study participants had a minimum one year follow-up. Data was obtained from a baseline comprehensive screening instrument, administrative claims data and county jail records. Logistic regression models were used to determine the likelihood of re-incarceration and community engagement in treatment as a function of the number of treatment sessions provided by the jail program. **Results:** County jail records indicated that 47.5% were re-incarcerated within 12 months of discharge.

*Correspondence to: Dr Aileen B. Rothbard, Sc.D., Research Professor, Center for Mental Health Policy and Services Research, 3535 Market Street, Room 3014, Philadelphia, PA 19104-2648, U.S.A.
E-mail: rothbard@mail.med.upenn.edu

†Center for Mental Health Policy and Services Research, Department of Psychiatry, University of Pennsylvania School of Medicine.

‡School of Social Policy and Practice, University of Pennsylvania.

§HPW Associates, LLC.

¶Beaver County Behavioral Health.

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During the four and a half year period following the inception of the COD program 67% were re-incarcerated, which was similar to the national three year recidivism rate. Fifty-two percent (52%) attended a community-based treatment program post discharge. The results of the regression analysis showed that a higher number of treatment sessions in the jail COD program was significant in reducing the rate of re-incarceration but was not significant in predicting who would engage in outpatient treatment post discharge. *Conclusions.* Although the findings are promising, the evidence suggests that the jail treatment intervention may need to be more intense than the outpatient model used in this project given that the average length of stay in the jail program was 8 weeks due to release to the community. An alternative consideration would be to only provide the program to those inmates who are sentenced for at least 90 days. Copyright © 2009 John Wiley & Sons, Ltd.

INTRODUCTION

It is estimated that approximately 10 million adults in the US suffer from co-occurring mental health and substance abuse disorders (COD) (Kessler *et al.*, 1996; CMHS, 1997). Four million are believed to be seriously mentally ill (Office of Applied Studies, 2003). The prevalence rates of COD in the criminal justice system are significantly higher than the rates in the general population (SAMHSA, 2003). Robbins and Regier (1991) found four times the rate of mental illness and as much as seven times the rate of substance abuse amongst inmates. While specific COD estimates range from 3 to 13% in prison populations (Edens, Peters, & Hills, 1997; Godley *et al.*, 2000), approximately 75% of persons with serious mental illness (SMI) booked into U.S. jails annually have COD (Steadman & Naples, 2005; Osher, Steadman, & Barr, 2003). Half of convicted jail inmates were under the influence of drugs or alcohol when arrested (Criminal Offenders Statistics; <http://www.ojp.usdoj.gov/bjs/crimoff.htm>). Despite the high COD rates in criminal justice populations, treatment programs are few and evaluations of their effectiveness almost non-existent.

Beaver County provided a unique opportunity to examine data from a COD program for incarcerated offenders in a county-based jail system that had both a sufficient number of subjects with COD and adequate resources to complete an extensive evaluation. Beaver, a semi-rural county located in southwestern Pennsylvania with a population of approximately 180,000, constructed a new correctional facility in 1999. A local task force recommended the provision of mental health services in the new jail. Concurrently, the Pennsylvania Office of Mental Health and Substance Abuse Services (OMHSAS) and the Bureau of Drug and Alcohol Programs (BDAP) issued a "Solicitation for pilot projects that integrate services and systems of care for persons with co-occurring mental health and substance abuse disorders" to all interested county MH/MR and Single County Authority Administrators. The Beaver County proposal to develop integrated treatment services for incarcerated

individuals diagnosed with COD was one of five pilot projects, and the only forensic proposal, to be funded beginning in 2002, as part of a statewide pilot initiative, to create models of integrated services (Mental Illness and Substance Abuse (MISA) Solicitation, Pennsylvania, 2001, <http://www.samhsa.gov/reports/congress2002/chap2spa.htm>). Subsequently, in 2003, Pennsylvania applied for and was one of seven states awarded the Co-Occurring State Incentive Grant (COSIG) offered by the Substance Abuse Mental Health Services Administration (SAMHSA) to enhance state infrastructure in providing co-occurring services. A portion of these federal funds was used to support the community COD programs for the discharged population.

This study examines the effectiveness of the Beaver County COD jail program in reducing rates of recidivism and increasing rates of engagement in community-based treatment following discharge for 261 individuals. Given the number of persons with COD that move in and out of the jails, the opportunity to engage individuals in a treatment program was hypothesized to improve the chances for successful placement in the community.

BACKGROUND

Effectiveness of COD treatment in community and corrections populations

Prior research findings from randomized control trials and quasi-experimental studies show evidence of efficacy of integrated treatment for community populations with COD (Jerrell & Ridgely, 1995; Hills, 2000; Peters & Hills, 1997; Essock et al., 2006). Integrated treatment in this case refers to coordinated mental health and substance abuse treatment in the same setting (Drake et al., 2001). This treatment has also been successful for persons with SMI using standard clinical case management or assertive community treatment (Essock et al., 2006).

Although numerous COD treatment programs exist in prisons (Peters, LeVasseur, & Chandler, 2004), there is scant evidence to demonstrate their treatment effectiveness since there is little evaluation or follow-up. A survey of 20 COD treatment programs from 13 state correctional facilities found that most prison programs were free standing treatment units where inmates were separated from the rest of the population (Peters et al., 2004). The programs incorporated mental health practices into more traditional substance abuse treatment approaches using cognitive behavioral therapy (CBT) and a modified therapeutic community treatment strategy (Edens et al., 1997; Peters & Hills, 1997). The treatment programs were relatively long with an average length of stay 10 months; approximately 25 hours a week was spent in core treatment. The most frequent mental health diagnoses were major depression and schizophrenia or schizoaffective disorder, and alcohol dependence was the largest substance abuse disorder.

Given the large prevalence of COD in the prison population, there is a need for more robust evidence on the effectiveness of integrated treatment programs. Furthermore, it is important to know whether COD treatment interventions can be effectively translated to jail populations given their relatively short stays. The in-jail Beaver County treatment program provided a chance to evaluate a brief intervention

with a jail population that included a period between one and four and a half years of follow-up for recidivism and community engagement in treatment.

METHODS

Treatment Setting

The Beaver County Jail is a 403 bed facility with 2,054 admissions a year and an average length of stay of 12 weeks. Based on data from Beaver county jail records, the recidivism or re-incarceration rate ranged between 65 and 70 percent annually (C. Steele-Smith, Beaver County Jail Director of Treatment, personal communication, December 17, 2007). The county jail is the single point of entry into COD treatment. Inmates were screened by the jail caseworkers, and those who indicated a mental health and/or substance abuse history were referred to jail-based treatment staff.

As part of the jail's intake process, a corrections counselor interviews an offender, completes a social services assessment, and determines whether the inmate may have a mental health and/or a substance abuse issue. The inmate is then referred to a therapist working inside the jail who is employed by a contracted agency that has a dually licensed outpatient program for both mental health and substance abuse. Any inmate who screened positive for a mental health and substance abuse disorder, with the exception of those charged with a capital crime, transferred from another institution, or on the Restricted Housing Unit, was eligible for the COD treatment program (Bell, Jaquette, Sanner, Steele-Smith, & Wald, 2005).

All agency staff completed the core COD training curriculum funded by the state. Staffing for the jail-based program consisted of a clinical director (15 hours per week), a psychiatrist (8 hours per week), two full-time therapists, and an administrative assistant. The staff to inmate ratio was at or below 1:30. The treatment components include: identification and assessment of offenders to determine eligibility for this program; provision of psycho-education and life skills training; provision of integrated treatment services; Alcoholics Anonymous/Narcotics Anonymous support groups; psychotropic medications, prescribed as needed, and issued by a subcontracted healthcare provider; interdisciplinary transition planning; preparation for aftercare; follow-up and support in the community, provided by a forensic case manager or an intensive case manager for those individuals with a higher severity of mental health or drug and alcohol problems.

Once the inmate has agreed to COD treatment, an individualized treatment plan is developed by the team and the inmate with consultation of the psychiatrist. The COD psychiatrist is responsible for conducting initial and on-going psychiatric assessments that are then used to refine, modify, and update the treatment plan, based upon severity of symptoms, level of need, and progress toward meeting agreed upon goals and objectives. Participation in the jail-based treatment was voluntary, with no incentives offered for enrollment or participation in the treatment programs (i.e. inmates who participated were not separated from other inmates as in the prison system). Since the inception of the jail-based COD treatment program, there has been 100% inmate participation for those who screened positive for COD.

The time period spent in treatment varied according to need and inmate availability. On average, participants spent 8.5 weeks in the treatment program, with

participation in 7.3 group sessions and 5 individual sessions. As part of the jail program, the COD treatment team (which was comprised of community treatment providers, jail counselors, residential service providers, case managers, probation officers, and any other community or natural support person) met weekly, often with a re-entry liaison. The team planned the discharge and transition back into the community and the liaison coordinated community referrals. Interviews conducted by the county's consumer satisfaction team indicate that 85.7% of offenders interviewed were highly satisfied with the overall treatment received while in jail.

Study Subjects

The subjects were adults who screened positive for COD upon admission to jail using the Screening Instrument for Initial Placement (SIIP). The SIIP was designed specifically for the Pennsylvania Bureau of Drug and Alcohol Programs (BDAP) by researchers at Hahnemann University and pilot tested in the counties (MISA Solicitation, Appendix 1, March 22, 2001; pa-co-occurring.org/resources/72204misa_final%20report2.doc). Over the course of two and a half years (May 2002–December 2004), 322 individuals entered the jail based program and were discharged between June 2002 and May 2005. Complete baseline data was available on 261 subjects. Re-incarceration and community treatment information was available through December 2007. A comparison of the 61 subjects excluded from the original sample showed no significant differences in gender, race, drug preference, type of behavioral disorder, or in-jail treatment characteristics. Only those subjects who had been determined to have a poorer prognosis at discharge were found to be significantly higher in the excluded group (63% versus 52%, $p=0.01$).

Study Design

The analyses employed an observational study design that examined re-incarceration rates and continuity or engagement in outpatient care for individuals participating in the jail based treatment program. All study participants had a minimum of one year follow-up with longer periods for those who were discharged at the beginning of the study period. The major independent variable of interest was the intensity of in-jail treatment measured by the number of individual and group treatment sessions. The control factors were sociodemographic, clinical and prior treatment and criminal justice history, as well as progress in treatment, measured as the extent of attainment of treatment plan goals. The data for sociodemographic and clinical information was obtained from the screening instrument. Follow-up information on community-based treatment was obtained from administrative claims data kept by the Beaver County Behavioral Health managed care organization, and recidivism information was provided by county jail records. Regression analysis using a logistic model was used to determine the odds ratios or likelihood of re-incarceration (0,1) and community engagement in treatment (0,1) as a function of the number of treatment sessions provided by the jail program. Controls for sociodemographic and clinical characteristics as well as previous outpatient treatment and incarceration were employed.

RESULTS

Table 1 provides a description of the individuals involved in the COD jail-based treatment program ($n=261$). The participants were mostly white (74%) males (57%), who were 37 years old on average, with high school educations (91%). Their primary drugs of choice were crack/cocaine (34%), alcohol (29%), and heroin (21%), and their mental health diagnoses were predominantly personality (60%) and depressive disorders (50%). A large proportion of the participants also reported a drug use disorder (83.9%) and an alcohol use disorder (73.9%). The mean global assessment functioning (GAF) score was 37, indicating impaired functioning. Higher GAF scores were indicative of better functioning. Almost all of the participants had been previously incarcerated for probation violation (66%). Violent crime related to previous incarceration was reported the least (29%). A large proportion of the participants reported some progress in treatment, 41% completed between 25 and 50% of goals and 22% completed between 75 and 100% of goals. About half of the participants received psychotropic medications during incarceration. The main reason for discharge from the program was release from jail (53%), which on average occurred at 8 weeks.

Of the 261 subjects, 51.7% attended a community-based treatment program post discharge. Analysis of re-incarceration data accessed from Beaver County Jail records indicated that of the 261 study participants, 178 (67%) were re-incarcerated during the four and a half year period following the inception of the program; 124 (47.5%) were re-incarcerated within 12 months of discharge. Of those who returned to jail, the primary reasons for return were drug offenses and probation violations (Table 2).

In-Jail Treatment and Recidivism

The results of the regression analysis examining the factors associated with re-incarceration (Table 3) showed that a higher number of treatment sessions in the jail COD program was significant in reducing the rate of re-incarceration (OR = 0.95; $p=0.04$). Also, older (OR = 0.97, $p=0.09$), males (OR = 0.41, $p=0.02$), with a diagnosis of bipolar disorder (OR = 0.26, $p=0.01$), were less likely to be re-incarcerated. Furthermore, those with higher functional levels, as measured by the GAF (OR = 1.07, $p=0.04$), a past history of probation violation (OR = 2.85, $p=0.003$), and both a drug (OR = 3.44, $p=0.008$) and alcohol problem (OR = 2.02, $p=0.04$) were more likely to be re-incarcerated. The model variables explained 21% of the variation in incarceration rates.

In-Jail Treatment and Engagement in Community Mental Health Programs

With respect to community treatment, post discharge (Table 4), participants who had been in outpatient treatment for mental health disorders in the past were more likely to engage in community treatment following discharge (OR = 4.8, $p < .0001$). Being male (OR = 0.52, $p=0.06$) and having a past history of probation violations (OR = 0.45, $p=0.02$) were associated with lower odds of participation in a

Table 1. Baseline characteristics of incarcerated population ($n = 261$)

	<i>N</i>	%	Mean (sd)
Socio-demographics			
Gender (%)			
Male	149	57.1	
Female	112	42.9	
Race			
Caucasian	194	74.3	
African American	53	20.3	
Other	14	5.4	
Age			
			37.3 (9.1)
Marital status			
Never married	129	49.4	
Education			
High school graduate	237	90.8	
Clinical characteristics			
Drugs of choice			
Crack/cocaine	89	34.1	
Alcohol	76	29.1	
Heroin and other opiates	54	20.7	
Cannabinoids	24	9.2	
Other	18	6.9	
Mental health diagnoses ^a			
Personality disorder	157	60.2	
Depressive disorder	132	50.6	
Bipolar disorder	62	23.8	
Anxiety disorder	47	18.0	
D & A diagnosis	219	83.9	
Drug use disorder			
Alcohol use disorder	192	73.9	
Global Assessment of Functioning score (GAF) ^b			
			36.9 (5.5)
History			
Prior behavioral health treatment			
Any outpatient	214	81.9	
Any residential	169	64.8	
Any hospital based	93	35.6	
Prior incarcerations			
Non-violent crime	144	55.2	
Drug related	128	49.0	
Probation violation	171	65.5	
Violent crime	78	29.9	
Any incarceration	245	93.9	
In-jail treatment characteristics			
Length of stay in program (in weeks)			
			8.5 (6.3)
Number of group sessions			
			7.3 (6.5)
Number of individual sessions			
			4.9 (2.7)
Progress in treatment			
Completed 0 goals	96	36.8	
Completed 25–50%	109	41.7	
Completed 75–100%	56	21.5	
Receipt of psychotropic medications during incarceration			
140	53.6		
Reasons for program discharge			
Released from jail	139	53.3	
Completed treatment	73	28.0	
Other	49	18.8	

^aMultiple diagnoses could be selected for each individual.

^bGAF scores range between 1 and 100, with higher scores associated with better functioning levels.

Table 2. Recidivism and continuity of care in community following discharge ($n = 261$)

Outcomes	N	%
Enrollment in community based TX program ($n = 135$)		
Co-occurring disorders	64	47.4
Mental health	21	15.6
Co-occurring & mental health	37	21.5
Mental health & drug & alcohol	13	9.6
Recidivism over 4 1/2 year period ($n = 178$)		
Drug related	34	19.1
Probation violation	21	11.8
Other	60	33.7
Drug & probation violation	46	25.8
Reason not specified	17	9.6

Table 3. Factors associated with recidivism/re-incarceration

	Recidivism		
	OR	95% CI	P value
Sociodemographics			
Age	0.96	0.92–1.00	0.09
Gender (1 = male)	0.41	0.18–0.89	0.02
Race (1 = Caucasian; 0 = African American)	1.18	0.53–2.65	0.68
Marital status (1 = never married)	1.49	0.73–3.07	0.27
Education (1 = H.S. or more)	1.01	0.33–3.08	0.98
Clinical characteristics			
Global Assessment score	1.07	1.00–1.15	0.042
Mental health disorders (1 = yes)			
Personality disorder	0.87	0.43–1.79	0.72
Depressive disorder	0.51	0.20–1.26	0.14
Bipolar disorder	0.26	0.09–0.79	0.01
Anxiety disorder	2.33	0.84–6.44	0.10
Schizophrenia disorder	0.85	0.07–10.6	0.89
Alcohol & drug disorders (1 = yes)			
Drug use	3.44	1.36–8.68	0.008
Alcohol use	2.02	1.01–4.06	0.04
History			
Previous treatment experiences (1 = yes)			
Outpatient mental health	0.85	0.40–1.78	0.65
Outpatient drug & alcohol	1.75	0.89–3.56	0.12
Hospital based mental health	0.76	0.34–1.68	0.49
Hospital based drug & alcohol	1.67	0.60–4.66	0.32
Residential mental health	1.17	0.56–2.42	0.67
Residential drug & alcohol	0.71	0.36–1.42	0.33
Previous incarcerations (1 = yes)			
Violent	1.29	0.60–2.78	0.51
Non-violent	1.55	0.79–3.01	0.19
Drug related	1.24	0.65–2.38	0.51
Parole/probation violation	2.85	1.40–5.77	0.003
In-jail treatment characteristics			
Number of treatment sessions (group + individual)	0.95	0.91–0.99	0.04
Receipt of psychotropic medications during incarceration (1 = yes)	1.27	0.67–2.43	0.46
Progress in treatment (1 = yes)	0.74	0.31–1.76	0.49
Post discharge characteristics			
Enrollment in community treatment program (1 = yes)	1.18	0.59–2.32	0.63
R^2	0.21		

Table 4. Factors related to community based treatment

	Enrollment in community based treatment program		
	OR	95% CI	<i>p</i> value
Sociodemographics			
Age	0.98	0.94–1.02	0.32
Gender (1 = male)	0.52	0.26–1.04	0.06
Race (1 = Caucasian; 0 = African American)	0.96	0.45–2.04	0.91
Marital status (1 = never married)	1.36	0.69–2.69	0.37
Education (1 = H.S. or more)	0.96	0.34–2.65	0.93
Clinical characteristics			
GAF (Global Assessment score)	0.99	0.94–1.04	0.62
Mental health disorders (1 = yes)			
Personality disorder	1.05	0.54–2.02	0.88
Depressive disorder	0.70	0.31–1.59	0.39
Bipolar disorder	0.45	0.17–1.18	0.10
Anxiety disorder	0.78	0.34–1.79	0.56
Schizophrenia disorder	2.69	0.15–50.19	0.50
Alcohol & drug disorders (1 = yes)			
Drug use disorder	1.08	0.46–2.53	0.85
Alcohol use disorder	1.32	0.68–2.56	0.41
History			
Prior treatment experiences (1 = yes)			
Outpatient			
Mental health	4.83	2.55–9.16	<0.0001
Drug & alcohol	0.79	0.41–1.53	0.49
Hospital based			
Mental health	1.3	0.65–2.73	0.43
Drug & alcohol	0.78	0.32–1.89	0.55
Residential			
Mental health	1.06	0.55–2.06	0.86
Drug & alcohol	1.34	0.73–2.49	0.34
Prior incarcerations (1 = yes)			
Violent	0.45	0.23–0.89	0.02
Non-violent	1.11	0.60–2.05	0.74
Drug related	1.12	0.61–2.04	0.71
Parole/probation violation	1.25	0.66–2.37	0.50
In-jail treatment characteristics			
Number of treatment sessions (group + individual)	0.99	0.95–1.04	0.69
Receipt of psychotropic medications during incarceration (1 = yes)	1.64	0.91–2.96	0.10
Progress in treatment (1 = yes)	0.83	0.37–1.83	0.63
<i>R</i> ²	0.20		

community treatment program post discharge. Surprisingly, the intensity of treatment, i.e. number of sessions, while in jail, was not significantly related to engagement in community treatment (OR = 0.99, *p* = 0.69). The model variables explained 20% of the variation in community treatment.

DISCUSSION

Few studies have reported outcomes related to participation in jail treatment programs. In this study, we found that inmates demonstrated their interest in receiving COD treatment on a voluntary basis as indicated by 100% engagement in the program while in jail and a 51.7% participation in treatment following discharge.

Although our study participants had a 67% re-incarceration rate over the four and a half year post discharge period, their recidivism rate one year post discharge was 47%. The three year national recidivism rate is 67% (Langan & Levin, 2002). Also, those receiving more intense treatment were less likely to be recidivists over a longer time period when compared with individuals receiving fewer services.

These findings suggest that in-jail treatment, at a minimum, can increase time in the community following discharge and in sufficient doses may reduce recidivism for long periods. Thus, in order to enhance the outcome, the treatment intervention may need to be more intense than the in-jail treatment model used in this project. Given the fact that only a little over one-third of offenders are in jail more than 6 months (Gerard, 2005), an alternative consideration would be to only provide the program to those inmates who are sentenced for at least 90 days. This would increase the likelihood that individuals would receive the duration of treatment suggested by evidenced based treatment guidelines (Principles of Drug Addiction Treatment, 1999).

The high participation rate in the jail-based treatment program, despite the lack of formal incentives, is also promising. There were some benefits to the inmates such as increased individual attention and time off the housing unit. Also, participation in treatment in some instances positively influenced the court system. Another factor for the high participation may be the content of COD treatment. Both clinical staff and inmates expressed feelings that this approach was more relevant and effective than either mental health or substance use only treatment had been in the past. The organizational structure of the treatment program may be an additional factor in explaining the over 50% engagement in treatment following discharge. The use of a single provider in and out of jail ensured continuity of care and in many cases enabled the individual to remain in treatment with the same psychiatrist and the same clinicians in the community as in the jail program.

A surprising finding was that individuals who had more treatment sessions were not significantly more likely to seek community treatment following discharge. One plausible explanation is that they had achieved certain goals while in the program and chose to use self-help support groups rather than formal treatment services once out of jail. This assumption should be investigated in future studies as no data was available from this study. However, many individuals post release may have found other demands such as housing, income, physical health needs, and family demands more pressing than treatment needs. To address these issues the county is implementing a Forensic Assertive Community Treatment (ACT) in the community. This program should help identify the factors that help individuals remain out of jail and hopefully lead to better planning post discharge.

It is important to note that the successful implementation of this treatment program was a function of the distinctive element of support that existed at multiple levels in the Beaver correctional program, and the county behavioral health program. The administrator and jail staff allowed the program to be implemented as designed and the evaluation efforts to be linked to the program, in the hopes of reducing recidivism. The Beaver County Behavioral Health provided guidance and support for an evaluation of the intervention through the establishment of quarterly quality improvement meetings. Additionally, they provided claims data to jail program evaluators on service utilization of inmates following discharge for purposes of monitoring service use. Data reported by jail program evaluators has been used by the county to shape the direction of current and future in-jail treatment initiatives.

The current study needs to be evaluated with a number of limitations in mind. First, the population in the Beaver County jail is not representative of the national jail population. First, there are more women in the Beaver County jail (25% in Beaver versus 12.9% nationally). Second, results from an observational study such as this, with no comparison group, suffers from methodological weaknesses with respect to causality. However, a randomized trial or a wait list, which would have provided more substantive findings for this intervention, is generally not feasible in this type of situation.

Despite the limitation of this study design, many questions in medical research are investigated in observational studies (Glasziou et al., 2004). Much of the research into the cause of diseases relies on cohort, case-control, or cross-sectional studies (Black, 1996). Also, observational studies are more suitable to understanding what is likely to be achieved in practical settings (Papanikolaou, Christidi, & Ioannidis, 2006). Another limitation was the inability to interpret the relationship between engaging in community treatment and decreased recidivism, which we expected to be significant. Because engagement in community treatment was collected as a dichotomous variable, the temporal sequence between the two events could not be addressed.

Not necessarily a study limitation, but an important caveat for interpreting the extent to which an intervention is successful, is the definition of what constitutes recidivism (Lyman & LoBuglio, 2006). The meaning of recidivism varies across studies and is not always specified. For example, some analyses define recidivism as re-arrests and others as reconviction. Some are based on data from a specific prison or jail program versus all possible jails. Further, the time period used to measure recidivism rates varies across studies. Thus, the interpretation of study findings should reflect, when possible, similar comparisons. Our 67% re-incarceration rate four and a half years post discharge can be compared with the 67% three year national re-incarceration rate that comprises both new and old crimes. Approximately 41.6% of the study participants' re-incarcerations were for technical violations related to probation.

In this paper we describe an in-jail COD treatment program and its association with reducing incarceration and increasing continuity of care following discharge. Despite the study limitations, the results suggest that in-jail treatment increases community tenure. This is particularly compelling given that the population with COD problems most likely has even higher re-incarceration rates than the general jail population. Furthermore, it is important to remember that recidivism is a complex problem that involves multiple factors; our regression model explained 21% of the variation in recidivism rates. Explanatory models need to be developed that incorporate factors such as neighborhoods to which individuals return, employment, and housing stability to understand the extent to which treatment alone can enhance successful placement in the community and reduce the revolving door between jail and community.

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